

Managing side effects of cultural tourism development¹

The case of Zhouzhuang

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Abstract

Zhouzhuang has been quite successfully to attract mass tourists. Yet, from the experiences gained from other cases, potential risks have been already embodied in the way the tourism has been developed. The physical buildings have been well preserved and reconstructed to be able to get listed in the UNESCO World Heritage List, a good way to promote its tourism. Yet, the traditional way of water-town living style, the major attraction of Zhouzhuang, is giving its way to commodification. An easy and quick compensating measure is adopted to create a staged authentic traditional life style. Cautions should be made to prevent the site to turn into a thematic park and thus lose cultural and social meaning for tourists.

Key word: system dynamics, feedback analysis, tourism development, cultural tourism, world cultural heritage.

1. Problems definition

1.1. Increasing demand for tourism

Tourism is a relatively new social activity that has recently emerged as a global phenomenon. The World Tourism Organization has even predicted that by the 21st century, tourist arrivals would have reached billions annually. It foresees that by the year 2010, 1 billion tourists would have traveled abroad and by 2020, this would have increased to 1.6 billion¹. In terms of revenues, this would easily translate to billions of dollars yearly. The World Travel & Tourism Council² considers tourism as the world's biggest industry and a key 21st century economic and employment driver. Tourist growth for the past decades has been a constant 9% annually, in spite of the economic slowdown.

It is no wonder therefore that the Third World governments have launched infrastructure projects such as roads, hotels and other tourist-promotion programs to promote tourism. Worldwide, public and private investments in tourism related activities have reached \$800 billion annually, accounting for 12% of total worldwide investments³.

¹ The field work is carried out in the project of Master Plan of Suzhou Tourism Development

1.2. Tourism development in Zhouzhuang

1.2.1. The historical development of Zhouzhuang

Zhouzhuang, an ancient town of 24.3 ha built beside a beautiful river 900 years ago near Shanghai and Suzhou, is noted for its old bridges, traditional gardens and life styles of local people and their culture uniqueness⁴. Efforts have been made to protect and reconstruct the landscape and buildings of the old town since 1970s by the local governments and local communities. Great achievements have been obtained and the old town becomes a major tourism attraction and is applying for world cultural heritage.

The population density is quite high. There are 1,853 permanent residents in the old town, more than 200 are migrants in 1996⁵. The local residents reached 2,053 in 1996. In 2000, almost 50% of the local people are from outside. Action plans have been formulated and implemented to move the former residents out in order to reduce the pressures on the small old town. Since it is the young people who are likely to move out, local population are aging rapidly and turning into a migrant community.

Development of Zhouzhuang tourism benefits from its relative backwardness in this region. The region in which Zhouzhuang is located in is well developed and famous for its rural enterprises. Zhouzhuang was left out to some extent due to its low service level of infrastructure. The old town and its traditional life style were reserved because the locals could not afford to rebuild their new houses and thus obtained the opportunity to develop tourism in late 80s when tourism began to develop in China. A rural-township company headed by the director of the Zhouzhuang town was set up to manage tourism development. The company has been quite successful in attracting tourists (table 1).

Table 1 Historical data of Zhouzhuang tourists (unit: 10,000)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
tourists	11	12.8	15	20	25	40	50		80	125	130

(Data Zhouzhuang tourism company)

The development of tourism has brought tremendous economic benefits to the local communities. In 1998, direct ticket income reached 1.5 million yuan and the total tourism income 230 million yuan. Meanwhile, tourism also generates other business opportunities⁶. Zhouzhuang already becomes a powerful economic town.

1.2.2. Tourism attractions in Zhouzhuang

In the proposals submitted to UNESCO for world heritage, four major values are listed. 1) The town, not impacted much by wars and other disasters, is located in a region, which has always been the most developed in China since the 9th century. It presents well the local history. 2) The layouts of the town and buildings were beautifully designed and express the harmony of nature and human. 3) The water town plays an important role in the regional economic system. 4) Humanity is the essence of the local culture. Local people are famous for their simple happiness and

honesty.

Tourism developed in Zhouzhuang is based on the four values, which can be categorized into the built environment and the life and business style developed in that typical environment. Therefore, tourism developed is basically a kind of cultural tourism.

1.2.3. Major decision makings in Zhouzhuang tourism development

Tourism development started in the 1980s. Strategies and policies have been made and implemented in order to raise the destination attractiveness and increase economic returns on tourism investment.

Promotion is a major strategy. An increasing substantial potential of tourism income has been devoted to promotional efforts. To be registered in the world cultural heritage directory is also a way of promotion of tourism.

Strategies are formulated to reallocated some residents in the old town to reduce environmental pressures and make it easier for the Company to manage the attraction. Although tourists are several times more than resident during the national holiday days, impacts of tourists on the local environment and society are not managed properly controlled. In order to bring a staged authentic local cultural atmosphere for tourists, blacksmith and grass weaving shops have been established. For the same purpose, a brand called Wangshan was also contrived for a serial of specialties, such as Wangshan Pig Foot, Wangshan cake and Wangshan wine. However, since raw materials for specialties are not produced locally, the economic leakage is quite large.

The Protection Plan of Zhouzhuang Old Town was finalized and is being implemented. Formerly demolished traditional style buildings, such as bridges, old gardens have been reconstructed. However, environmental facilities have not been put into place to treat the waste water and waste solids.

1.2.4. The corporate structure of tourism development

The corporate is now headed by the deputy governor of Zhouzhuang town. The ownership determines that the corporate has strong linkages with the local communities and has strong control over local residents. Compared with other tourism development regions controlled by external monopolized tourism companies in many developing countries, the strategies Zhouzhuang Tourism Company has adopted are less opposed by the locals. For example, the resettlement program has been quite well accepted by the locals. However, resistance from the locals can rise if the potential conflicts are not solved in the early stage of tourism development.

1.3. Impacts of tourism on local attractions

1.3.1. Job opportunities

Tourism is touted as a major source of employment worldwide. Tourism development has provided a substantial job opportunities in Zhouzhuang. However, many of the locals have worked in small factories and agricultural sector for a long time. Local people prefer categorizing themselves producers to service providers. Tourism service is still perceived to be the second best work. Migrants are attracted to start small business and work in tourism sector. All the low pay jobs are filled by

outsiders rather than the locals.

1.3.2. Commodification

Although when Tsartas⁷ studied the sociological impacts of tourism on two Greek Isle, he pointed out that the declining of the cultural value is hard to be perceived. Even Tourism development has also caused a lot of cultural changes in Zhouzhuang.

According to the survey done in 2000 Nov., commodification is undertaking rapidly in Zhouzhuang. There are 466 various shops situated in the old town (including the ones in the process of decoration). There are 166 craft shops selling framed photos, 94 restaurants and local specialty shops mainly selling Wangshan pig foot. These shops are basically for tourists. The old town has turned into a busy business town especially for tourists. Articles on the commodification in Zhouzhuang have reported in popular travel journals⁸.

1.3.3. Environmental damage

The total area available for tourists is about 10 thousand meters². If 15 meters² are needed for each tourist, the maximum carrying capacity is about 2000 people per day. During the public holiday period, average tourists visiting this place far exceed its carrying capacity. The over-crowdness brought environmental damage, especially water pollution. Most canals in Zhouzhuang old town are quite narrow and stagnant. Before the tourism development, the assimilation capacity of water exceeds the polluting rate and quality of water was acceptable. However, with the increase of tourists and the opening of 24 big-scale restaurants discharging wastewater directly into the canals, water is badly polluted.

Although any new construction inside the old town was controlled quite strictly, hotels and other service facilities have been built around the old town attempting to benefit from the arriving tourists. New tourism products, “free-riders” of the old town, such as a Japanese style golf course, and other recreational facilities are also constructed rounding the old town. The image of quite and peaceful water-town is hardly obtained.

Also, travelers’ expectations of the goods and services, can lead to the items or services, being imported from outside or local supply chains, being distorted to meet demands and sometimes lead to the increased consumption of local natural resources, such as the increased demand for water and pig feet⁹.

1.3.4. Latent conflicts between local people and tourism development

The work done by Bulter¹⁰ and others indicates that the level of tourism development influences residents’ perception of the tourism development and thus leads to potential conflicts. Williams and Shaw¹¹ pointed out that there is no simple linear relationship between the growth of tourism and the benefits for local communities. In the initial stages, tourism may bring benefits to the locals. With the further development, both consequences may become more apparent. Therefore, Doxey¹² and Gunn¹³ even predict that there is an inverse relationship between tourism development and local support.

The conflicts between local people and tourism development in Zhouzhuang now

are not obvious, but potential conflicts have been perceived. 1) Some attractions are reserved for tourists rather than for locals. 2) Living environments for residents have not been improved much to preserve traditional buildings. 3) Although jobs are created in tourism service sector, the economic leakage is high. Young people are attracted to work and live outside the old town. According to the survey done in 1997, more than 37% of households are seniors over 60 years old. Population of the community is aging and becoming a migrant community. 4) Houses become very expensive for living. It is profitable for residents to rent houses for commercial use. Therefore, although Zhouzhuang tourism development is a community based one, conflicts between tourism development and local culture can still develop gradually and become intense if not controlled properly.

1.4. Institutional capacity to address the impacts of tourism

Since the type, scale and significance of environmental and social impacts on tourism destination vary individually, depending upon the ability of a visited area. Impacts may be short or long term, direct or indirect, local, national or global, positive or negative¹⁴. Therefore, there are no standard procedures to perceive, evaluate and manage these negative impacts. The capacities of local institutions, poorly developed are the key for the success to control the social risks of tourism activities. If the negative impacts are not properly addressed, the negative feedback in return can lead to the destruction of tourism.

In Zhouzhuang, there is general a lack of awareness to integrate social, economic and environmental balance in making decisions of tourism development, especially the social balance and a lack of monitoring system to monitor potential conflicts between local communities and tourism, and impacts between tourism and locals.

1.5. Perceived feedback impacts on tourism development in Zhouzhuang

Although tourists are still growing in Zhouzhuang, negative feedback of tourism impacts has already been perceived. The tourist survey done in 2000 May² shows that tourists complained about environment quality. The polluted water is contrast to the expected image of water town and crowds in Zhouzhuang do not present a peaceful and comfortable place to live and enjoy. Complaints are also about commodification controlling the old town instead of a peaceful and friendly water town. Tourists are forced into shops and restaurants. Informal vendors take the space of Beishi street, the major but small tourism street. The sight of landscape is thus impacted.

Returns of investment on reservation and promotion are declining because of the limited time tourists stay in Zhouzhuang for sightseeing and also because of large economic leakage. In order to attract tourists and bring returns to investment, an increasing percentage of tourism income is allocated for promotion. Waste treatment facilities are always under investment.

However, compared with other industries, tourism industry has fewer impacts on environment and local cultural than other industrial sectors in this region. Tourism industry has a vested interest in protecting the natural and cultural resources that are the core of its business. Therefore, the emergency challenging is to search for

² Provided by Zhouzhuang Tourism Development Co. limited.

operational policies challenging to mitigate these negative impacts.

The above analysis clearly shows that there are four characteristics affecting performance of Zhouzhuang cultural tourism. 1) The overall pattern of cultural tourism development is determined by feedback structures. 2) The decline of cultural value, especially the intangible cultural attractions is a slow process. The decay is gradual at the beginning of the degradation but rapid at the later stage. 3) There are long delays between the perceived impact of tourism and the implementation of tourism development strategies. 4) Institutional capacity to address the negative feedback is low. Therefore policies may not be necessarily address real causes for the occurrences of the potential problem. Instead, additional problems are raised by these simple and quick solutions. For example, when the lack of authentic life culture in Zhouzhuang is pointed out, the Company enriches the traditional culture by setting up blacksmith shops etc in order to create an “staged authentic life”.

3. A system dynamic model of Zhouzhuang tourism development

A proper methodology is needed to analyze time delays, non-linearity and feedback in order to explore effective policies to radically improve the development pattern of cultural tourism in the long term. System dynamics has been used in the domain of complex modeling methodologies involving computer simulations and feedback analysis for over three decades¹⁵¹⁶. Feedback analysis, a core in system dynamics, has been used in study and research of social and management problems since the beginning of this century and helps understand the characteristics of the management problems¹⁷. It is excellent for to quickly capture the hypothesis of the causes of dynamics; communicating the important feedback the researchers believe are responsible for the problem¹⁸. The stocks and flows, the analytical tools for system dynamics, can capture stock change, time delay process and non-linearity.

3.1. The overall structure of the model

Figure 1 is the overall structure of the model³. The overall map shows the complexity of the internal structure determining tourism development in Zhouzhuang. That model is composed by six sectors: physical environment sector, cultural sector, infrastructure sector, job market, tourist sector, financial resource allocation sector and promotion sector.

Physical environment sector illustrates attributes of physical environment that the town is situated in, including bridge attractions, gardens, canals and water. Cultural sector illustrates the change of cultural value. Job market structures the employment opportunities in tourism industry. Infrastructure sector is a simplified version of provision of infrastructure service. These four sectors together determine the attractiveness of tourism destination.

Tourist sector describes the travel decision. Financial resource sector shows the decision of the Company to allocate financial resources between protection and promotion. The promotion sector gives a simplified version of efforts for promoting tourism in Zhouzhuang.

The overall map demonstrates that attractiveness of the destination brings tourists

³ The early version of the model is provided by Prof. Khaild Saeed.

who in turn normally have negative impacts on destination attractiveness. The extent of tourist activities determines resources needed for conservation of physical environment and the utilization rate of existing infrastructure has effects on resources allocated to promotion. The resources allocation in turn effect tourist sector and physical attractiveness.

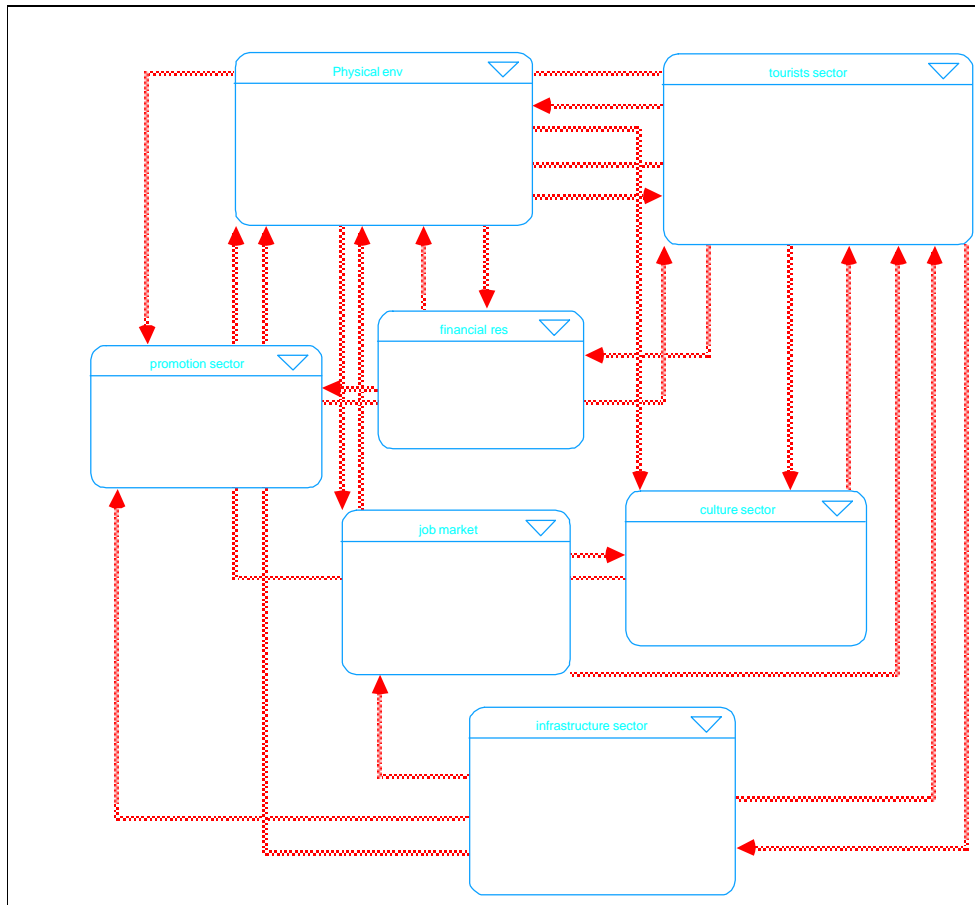


Figure 1 overall structures of the model

3.2. Sector description

3.2.1. Tourist sector

Reizinger defined the cultural tourism¹⁹ is a form of experimental tourism based on the search for and participation in new and deep cultural experiences of an aesthetic, intellectual, emotional, or psychological nature. Stebbins²⁰ pointed out that cultural tourism is often contrasted with causal leisure: immediately, relatively short-lived pleasurable activity requiring little or no special training to enjoy it. The objects attracting the cultural tourists are socially and psychologically much less accessible, for they require the development of certain tastes, acquisition of certain kinds of knowledge. The identification that comes with cultural tourism differs significantly from the one that comes with mass tourism.

In this model, tourists who are attracted to Zhouzhuang, are basically cultural tourists. However, these tourists are aggregated into two types of tourists determined

by their relative preferences for culture attractiveness and infrastructure availability. They are cultural preference tourists and leisure tourists. There are no clear distinctions between the two types of tourists. All tourists are attracted to the destination by three factors, local cultural identity, by the adequacy of infrastructure including easy access and good accommodation and by the quality of physical environment. The difference among them is the weight of the three attracting factors on the overall attractiveness of the destination.

3.2.2. Physical environment sector

Physical environment, an aggregated concept of natural and built environment, is a stock²¹. The stock is decreased by the consumption outflow and increased by reconstruction inflow. The consumption rate is determined by the indicated consumption but effected by the management effort. Indicated consumption is the sum of indicated consumption that tourists, existing infrastructure, migrants, and construction of infrastructure tend to impact or consume. Reconstruction rate is determined by resources devoted for the reconstruction.

3.2.3. Cultural sector

The model assumes that local people tend to keep local cultural value. The cultural value is represented by the ratio of local people out of total population which is the sum of tourists, migrants and local people. More local people remain, the greater local culture is kept. Local people move out of the old town due to low variety of job alternatives, opportunity cost for keeping room for their own use rather than commodification, the slow process to improve living environment inside the old town and the high population density. The decline of cultural value has non-linear relationship with the local culture value. When the percentage of tourists of local people is low, declining rate of value is slower than that when the percentage of tourists of local people is high.

If the assumption culture is the foundation of a society is acceptable, it is clear that tourism - if conducted in an unsustainable manner - can contribute to social impoverishment. However, culture can be rebuilt if special efforts are made with governments' supports. As Wood (1980)²² points out cultures are not passive, and must become sensitive to the cultural strategies people develop to limit, channel and incorporate the effects of tourism. The reconstruction of culture is a long time process.

3.2.3. Infrastructure sector

Infrastructure sector is a simple version of investment decision for hotels, transportation facilities, etc. The infrastructure capacity is a stock. It is increased by the construction rate and decreased by the decay rate. The construction is a delay function of investment decision, a key decision in this sector. The investment depends on the availability of infrastructure represented by infrastructure per tourist. Investment in tourism infrastructure facility is very attractive in this region. Therefore, the normal market situation is over supply.

3.2.4. Job market sector

Although Zhouzhuang tourism sector has generated job potentials, a substantial percentage of employment opportunities, either as small shop owners or as manual workers, are often taken by the outsiders attracted by the job availability. In the model, job availability is defined as migrants divided by the total available jobs, which is the sum of available jobs in infrastructure construction and tourism service sector. When there is no job, migrants will move out.

3.2.5. Financial resource sector

Financial resource sector describes financial resource distribution between the conservation and other expenditures including promotion. When the importance of conservation of the destination has been perceived, part of the tourism revenue effected by the number of total tourists is allocated for preservation of physical resources. The fraction of other expenditures effected by the utilization rate of infrastructure facilities is allocated for tourism promotion.

3.2.6. Promotion sector

The fraction allocated for promotion is growing very fast due to furious competition from neighboring old towns. Promotion expenditure per tourist is used as an indicator of promotion intensity. But the effect of promotion is not a linear function of the promotion intensity.

3.3. Learning from model simulation

Figure 2 is a simulation result of cultural tourism development in Zhouzhuang. The figure shows that while total tourists rise, the cultural attractiveness begins to decline. The decline is gradual at the beginning but then at a faster rate at the later stage. When cultural attractiveness declines, cultural tourists first lose interest, while the mass tourists are gradually attracted to this place. Therefore, the total tourist number rises. The growth of mass tourists can not last long. When the physical environment and local culture are heavily impacted by the increased tourists, mass tourists suddenly drop.

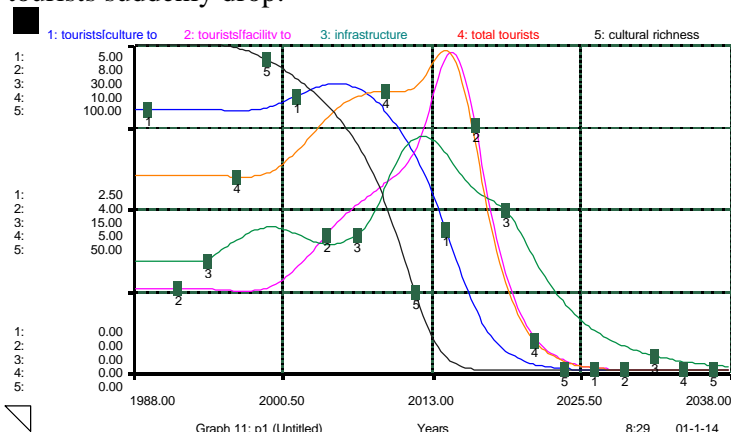


Figure 2 base run of a typical cultural tourism development

3.4. Feedback structures determining the behaviors

Figure 3 and figure 4 explain structures determining the development pattern in Zhouzhuang. Figure 3 is the growth mechanism and figure 4 is the limiting mechanism for Zhouzhuang tourism development. There are three major growth (positive) feedback loops in figure 4. The first positive loop, the building of tourism infrastructure, is the usual mechanism that tourism developer would like to implement. The incentive for investment in infrastructure construction is strong although the effect of infrastructure improvement begins to reduce along with the increase of the infrastructure facilities. Feedback loop 2 is the growth feedback between the promotion and tourism development. Feedback loop 3 is the feedback between tourism revenue and resources allocated for the environmental protection.

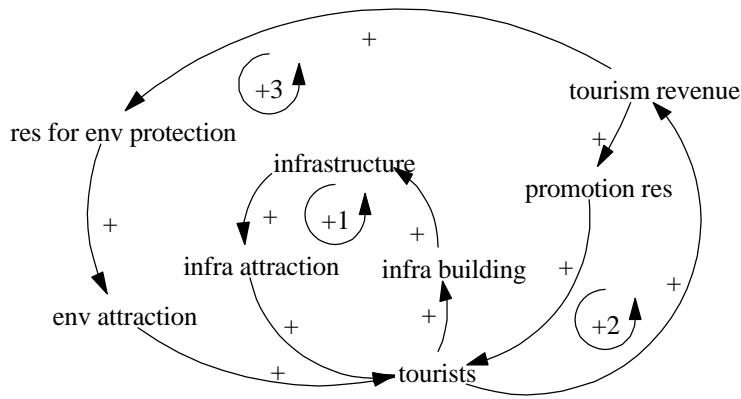


Figure 3 Growth mechanism for tourism development in Zhouzhuang

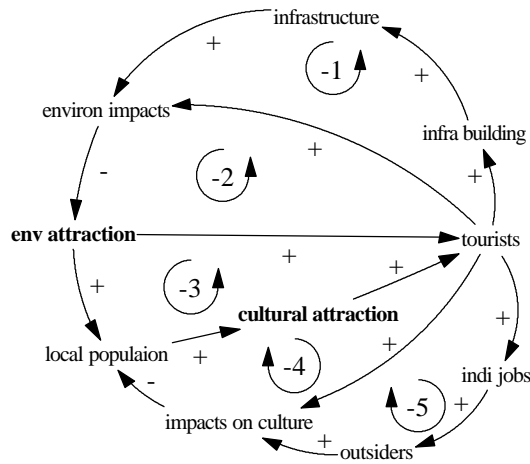


Figure 4 Constraining feedback structure for Zhouzhuang tourism

There are five negative feedback loops. The five feedback loops all take effect either through the reduction of environmental attractiveness or through the reduction of cultural attractiveness. The growth of tourists and construction of infrastructure have negative impacts on the environment. The environmental quality and attractiveness of physical environment are reduced. Other three feedback loops are related with the reduction of cultural attractiveness. When tourists arrive, they bring different culture and impact on the uniqueness of the local life style, etc. When more tourists arrive, more jobs will be available for the outsiders. In the mean time, when tourism grows rapidly, the pressure on environment grows and locals feel uncomfortable to live in the old town. Local residents tend to move out. In the end, traditional cultural value and traditional community identity erode.

4. Policy experiments

4.1. Improving operators' professional performance

It is argued that a lack of commitment by tourism operators and travelers contributes to the poor maintenance of local environment and culture of the host destination. Improved service of guides may reduce impacts by regulating visitor behavior and improve their experiences²³. In order to understand the effects of responsible and competent tourism guides, a simulation was run at the time of 2000 with the assumption that environmental awareness is raised and the damage on the physical environment is reduced. The simulation run shows that the growth of total tourists lasts longer and the collapse of tourism is postponed. However, the overall pattern is no effected because impact of tourism on the local culture is hardly controlled.

4.2. Participatory approach involving the locals

Many researchers have also pointed out that unless indigenous peoples directly participate in the planning, implementation, and regulation of tourism activities that affect them, and unless benefit-sharing mechanisms are put in place, tourism can never redound to their interest. Therefore conflicts between community and tourism development can be intensified and lead to the collapse of cultural tourism²⁴.

Tourism development in Zhouzhuang is community based. The established company has strong connections with the locals. Conflicts between the community and the attraction developer have not been perceived tense. At this stage, both the cooperate decision makers and the local communities have obtained the economic benefits and perceived potential benefits from tourism development in Zhouzhuang in recent years. More tourists become a shared vision for the two parties. Tourism development gradually turns from the protection of the cultural uniqueness to money generator. Two major characteristics of tourism attractions gradually erode. Local residents are likely to move out to new urbanized area when they become rich. The town turns from a traditional regional economic center to a pure tourism town. Therefore, participatory planning at this stage is not a radical solution.

4.3. Protection of physical environment

Zhouzhuang is applying to get listed by UNESCO as world cultural heritage site.

Therefore, substantial resources are allocated for the protection and reconstruction of the built environment to meet the criteria. The authentic way of living culture in the old town is continuing to change rapidly. Since the change of behavior is difficult to be perceived and be guided, the overall trend of unsustainability is hard to be prevented. The total number of tourists gradually rises and then collapses. When there tourists decline, infrastructure also declines and added to the further decline of mass tourists.

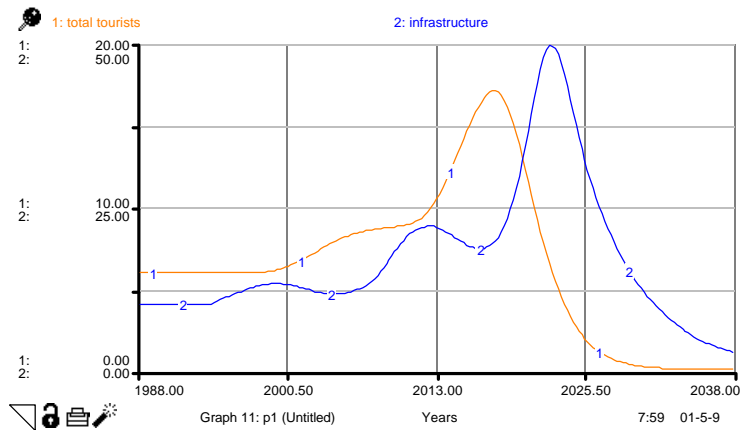


Figure 5 Simulation runs of improving the physical environment

4.3. The implementation of carrying capacity policy

The most important cultural tourism management is the implementation of carrying capacity concept widely accepted. There has been no acceptable standard methodology to define destination's capacity. Even when they have been defined, strategies are hard to implement within the limits of carrying capacity. This may be due to broader management and local area objectives²⁵.

Simulation runs have been made to test the effectiveness of the policies when different levels of maximum carrying capacity are implemented to control tourists. Figure 4 is the results of this simulation run, indicating that the policy can impact the total tourist number visited Zhouzhuang. But, it can not prevent the decline of tourism. The implementation of carrying capacity does not mean that local culture can be preserved. When local residents benefit from tourism development, demand for better living environment increases. More local people tend to move out of the old town if the living environment has not been improved for them.

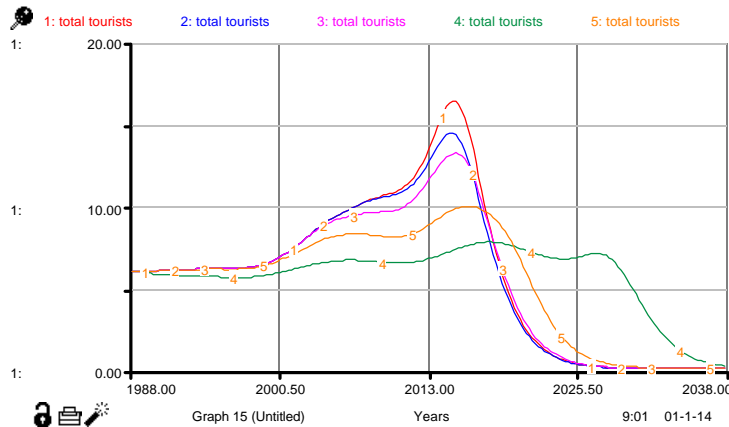


Figure 5 Simulation runs of implementing carrying capacity policies

The simulation runs implies that imposing carrying capacity can be effective when it is implemented with other policies to help the locals to construct and preserve their living cultures. Although it is operational difficult to optimum carrying capacity, it is more sustainable to formulate and implement a conservative standard than a optimistic way in order to obtain lone term benefits. The shared vision for tourism development has to turn from mass tourism to quality tourism. ‘alternative tourism’ strategy should be adopted.

5. Conclusions

Cultural tourism has the potential to help preserve and enrich local indigenous cultures not only in the short term, but also from a trans-generation long-term perspective. Indeed, the development of a sustainable tourism model could play a valuable role in the development of more sustainable societies worldwide. There are, however, significant risks involved. The challenge is how to preserve life cultural value with the growth of tourism industry.

From the experiment of system dynamic modeling, it can be learned that cultural resources are vulnerable and easy to lose its core content. Therefore, whenever cultural tourism strategies are formulated, the vulnerability of the cultural resource being promoted must be carefully assessed to ensure that any planned activities do not threaten or undermine it. Furthermore, it is absolutely critical that the true value of cultural tourism is to be understood and appreciated by the local communities at the beginning of tourism development. Alternative way to develop and sustain cultural tourism has to be found out to control the risks caused by the development.

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