

# COMPARATIVE STUDY ON RESIDENTS' PERCEPTION OF TOURISM IMPACT AT TOURIST PLACES —A Case Study of Xidi, Zhouzhuang and Jiuhua Mountain

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**ABSTRACT:** Based on the questionnaire investigation, the authors make a comparative study on local residents' perception of tourism impacts in Xidi, Zhouzhuang and Jiuhua Mountain. The result shows that residents of the three places tend to have strong and consistent perception of its positive economic, socio-cultural and environmental impacts, but distinctly diverse ones of its negative impacts. Residents in Xidi and Zhouzhuang also have noticeable perception of its negative environmental impacts while those in Jiuhua Mountain have weaker perception of them. The research confirms the fact that residents are more liable to have positive perceptions at the early stage of the life cycle of the tourist places. The authors conclude that there exists a nonlinear relationship between residents' perception and tourism development stages, and that tourism socio-cultural impact may appear at an early stage of tourism development instead of being no universal.

**KEY WORDS:** tourism impacts; residents' perception; comparative study; Xidi; Zhouzhuang; Jiuhua Mountain

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## 1 INTRODUCTION

Regional impact of tourism has been a basic content of tourism geographical research (BAO and CHU, 1999). A large number of studies have shown that the development of tourism industry based on service has profound positive and negative impacts on social structure, local economy, cultural tradition and ecological environment of the tourist places (GARTNER, 1990). However, influenced by the mainstream values of the society, focus has always been placed on its economic effects during the practice of tourism development and management. While evaluating tourism impact, authorities often pay more attention to the data of local finance, employment and economy than to the factors of social culture, psychology and environment. This economy-oriented attitude inevitably results in the short-term management of tourism, and will have negative impacts on economy, social development and environmental evolution in the long run. Such cases can be found all over the world (THEOBALD, 2001). Therefore, ever since the 1970s,

with sustainable tourism development, studies on tourism impacts, especially coordination between nature, culture and human settlement being given priority, have been furthered and become a hot topic in tourism geography, among which, residents' perception of tourism development as a miniature domain of it, has received widespread concern and come into spotlight in the past 30 years. The principal reasons are: 1) tourism impacts may be universal, gradual, and perceptible, while socio-cultural and environmental impacts are generally difficult to be quantified and measured; 2) residents' perception not only is an important reflection of the nature and scale of tourism impacts but also influences their own attitude and behavior concerning tourism development, and is a strategic factor to the successful development, operation and management of tourist places at present and in the future (AP, 1992).

Oversea study of residents' perception of tourism impacts mainly deal with the following aspects: 1) forms of tourism impacts and residents' perception of them, forms of tourism economic, socio-cultural, and envi-

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ronmental effects and residents' perception of them (BUTLER, 1974; PIZAM, 1978; LIU and VAR, 1986; ROSS, 1992; MILMAN and PIZAM, 1988; STOKOWSKI, 1993; CANEDAY and ZEIGER, 1991; BRUNT and COURTNEY, 1999; FREDLINE and FAULKNER 2000); 2) studies on the factors influencing residents' perception (FAULKNER and TIDESWELL, 1997; SH-ELDON and VAR, 1984; RITCHIE and SMITH, 1991); 3) basic theories and related models of residents' perception of tourism impacts (JUROWSKI *et al.*, 1997; PERDUE *et al.*, 1990; GURSOY *et al.*, 2002; YOON *et al.*, 2001; LINDBERG and JOHNSON, 1997); 4) studies on the relationship between residents' perception of tourism impacts, attitude and behavior (AP and CROMPTON, 1993; RYAN and MONTGOMERY, 1994). To compare with the international studies, domestic studies on residents' perception of tourism impacts at tourism places are found less (LU, 1996; BAO, 1996; WANG *et al.*, 1999; XUAN *et al.*, 2002)

Generally speaking, domestic and oversea scholars have carried out extensive studies on residents' perception of tourism impacts at tourist places, which have promoted and guided tourism planning and management, tourism product development and marketing, as well as the sustainable development of tourist places. However, owing to the diversity of study approach, sampling and statistical analysis, and limited by the special background of each study case, the research findings are hard to be compared and deducted. This essay aims at the simultaneous comparative analysis of residents' perceptions of tourism impacts at 3 tourist places which differ from each other in their location condition, space scope, resources characteristics, local culture, development history, tourism development level as well as management modes, so as to reach a universal theoretical recognition and inspire still deeper investigations into the phenomenon.

## 2 METHODOLOGY

Previous case studies have reached a relatively identical conclusion that residents who derive economic profits from tourism at tourist places tend to have a more positive perception of tourism impacts (WILLIAMS and LAWSON, 2001). Thereafter, the essay classifies the local residents into 4 types based on their contact degree with tourists and economic dependence on tourism: Type A includes those who have frequent contact with tourists and derive most of their economic income from tourism, such as employees in hotels and travel agencies, and individual tourism entrepreneurs. Type B in-

cludes those who have irregular contact with tourists and are only partially dependent on tourism economically, such as those engaged in commerce, amusement, and transportation services. Type C includes people who have frequent, prolonged contact with tourists but have less economic dependence on tourism, such as ordinary villagers and inhabitants. Type D are those people who seldom have contact with tourists and have no economic dependence on tourism, including retirees, students and teachers. Field social survey approach is applied in obtaining information about local residents' perception of and attitude to tourism impacts. The survey questionnaire takes the form of LIKTER's Table, asking the interviewees to show their reply according to the scales of five from extremely negation to extremely approval.

The survey has incorporated the approaches of interviewing and form-filling. Questionnaires are distributed randomly to types A, B and D residents with the help of local authorities, Xidi Tourism Development Company, Zhouzhuang Water-town Tourism Corporation (Ltd.), and Jiuhua Mountain Corporation (Group), while Type C residents are interviewed personally and asked to fill in the questionnaires. The survey was carried out from October to December 2002. Thirteen hundred questionnaires were handed down to the community households, of which 862 valid questionnaires (Xidi 260, Zhouzhuang 285, Jiuhua Mountain 317) were recollected later. The result is processed with the help of SPSS software.

## 3 BACKGROUND OF STUDY AREAS

The tourist places studied in the essay all list their names in the National 4A-level Tourist Places. To be specific, Xidi is an ancient world heritage settlement characterized by Hui culture, Zhouzhuang, an ancient town well known for its watery network, while Jiuhua Mountain is a famous Buddhist resort.

In terms of the development history of the study areas, Jiuhua Mountain began receiving tourists since Tang and Song dynasties while Xidi and Zhouzhuang began around 1986 although all of them have distinct features of tourism development stage. As to the development patterns of the three tourist places, Jiuhua Mountain takes a typical government-controlled pattern, i.e. government plays a major part in tourism investment while local residents play a minor role. Xidi and Zhouzhuang take peasants-controlled pattern, i.e. Xidi Tourism Service Company and Zhouzhuang Water-Town Tourism Corporation (Ltd.) established by village (town) play the major role in tourism investment and management.

Local capital comprised of the major part of tourism investment, and most local residents are highly engaged in tourism. The three tourist places differ from each other in both styles and development level. Table 1 is a comparison of main features among the three tourist places.

Table 2 illustrates tourism development condition and the increase of local residents' income at the three tourist places from 1993 to 2002.

The study areas differ in their types and development levels, and thus tourism development has a great influence on the local economy, social culture and environment. In 1987, the production ratio of primary, secondary and tertiary industries and employment in each one in Xidi were 88.8:9.9:1.3 and 85.5:6.6:7.9, and had changed to 9:0.9:90.1 and 56.3:8.6:35.1 by the year 2002. In Zhouzhuang, they were 21.7:62.8:15.5 and

Table 1 Comparison of the basic features of Xidi, Zhouzhuang and Jiuhua Mountain tourist places

Item	Xidi	Zhouzhuang	Jiuhua Mountain
Resources characteristics	Ancient streets, ancient dwelling-houses, ancient menorial archways, stone, brick and wood sculptures	Bridges, streams, houses, sites of ancient cultural relics	Wonderful peaks and waterfalls, deep valleys, strange stones, ancient trees, Buddha light
Publicity	World cultural heritage	Candidate of world cultural heritage	One of the four famous mountains of Buddha in China
Tourist area	0.13km <sup>2</sup>	1.46km <sup>2</sup>	13.1km <sup>2</sup>
Number of local residents	1021	21593	4691
Economic development level in 2002	Total income 15.529×10 <sup>6</sup> yuan (RMB), 3120 yuan per capita	GDP 882 ×10 <sup>6</sup> yuan, 6258 yuan per capita	Total income 365×10 <sup>6</sup> yuan, 5189 yuan per capita
Local culture	Hui culture	Wu culture	Buddha culture
Location & accessibility	Mountainous areas of southern Anhui, railway and highway	Corner of Jiangsu and Shanghai, airplane, railway and highway	Mountainous areas of southern Anhui, highway
History of tourism development	Since 1986	Since 1986	Long history, developed gradually since Tang Dynasty
Chief tourist market	Anhui, Jiangsu, Shanghai, Zhejiang, Guangdong	Shanghai, Jiangsu, Zhejiang, Beijing, Guangdong	Anhui, Shanghai, Jiangsu, Zhejiang, Jiangxi
Chief tourism form	Day tour, group tourists	Day tour, group and individual tourists	Three-day tour, individual tourists
Tourism development level in 2002	Received 283.6×10 <sup>3</sup> tourists, tourist income 11.8133×10 <sup>6</sup> yuan	Received 2.630×10 <sup>6</sup> tourists, tourist income 700 ×10 <sup>6</sup> yuan	Received 543.1×10 <sup>3</sup> tourists, tourist income 310 ×10 <sup>6</sup> yuan
Operation & management body	Xidi Tourism Development Company, Yi County	Zhouzhuang Water-town Tourism Corporation (Ltd.)	The Administration Committee of Jiuhua Mountain Scenic Area

Sources: Xidi Tourism Development Company, 2002; Zhouzhuang Water-town Tourism Corporation, 2002; The Administration Committee of Jiuhua Mountain Scenic Area, 2002

Table 2 Tourism development condition and increase of residents' income at Xidi, Zhouzhuang and Jiuhua Mountain

Year	Xidi			Zhouzhuang			Jiuhua Mountain		
	Tourist arrivals (×10 <sup>3</sup> person-time)	Tourist income (×10 <sup>3</sup> yuan)	Income per capita (yuan)	Tourist arrivals (×10 <sup>3</sup> person-time)	Tourist income (×10 <sup>6</sup> yuan)	Income per capita (×10 <sup>3</sup> yuan)	Tourist arrivals (×10 <sup>3</sup> person-time)	Tourist income (×10 <sup>6</sup> yuan)	Income per capita (×10 <sup>3</sup> yuan)
1993	33.9	209.8	473	210	30.0	1.898	260.2	36.31	1.100
1994	39.6	460.6	567	250	45.5	2.240	275.9	41.12	1.460
1995	53.6	1067.6	1170	400	64.0	3.858	327.8	72.10	3.628
1996	73.5	1436.9	1777	470	90.0	4.574	431.2	110.00	4.215
1997	134.5	2362.5	2554	700	180.0	4.652	497.9	177.00	4.700
1998	141.4	3024.1	2592	1000	250.0	4.845	401.9	147.00	4.910
1999	170.1	3527.6	2698	1250	312.5	5.067	425.6	238.00	5.355
2000	184.	5274.9	2858	1500	420.0	5.500	443.9	237.00	5.360
2001	270.8	8510.5	2593	2080	600.0	5.846	504.5	279.00	5.135
2002	283.6	11813.3	3120	2630	700.0	6.258	543.1	310.00	5.189

37.6:47.5:14.9 in 1991, and 4.9:33.1:62 and 11.1:36.3:52.6 in 2002. In Jiuhua Mountain, they were 8.7:42.4:48.9 and 53.4:22.7:23.9 in 1992, and 6.4:13.8:79.8 and 24.1:17.6:58.3 in 2002. A large number of people have come to settle down in the three tourist places, with the number being 107 in Xidi, 6965 in Zhouzhuang, 1579 in Jiuhua Mountain in 2002. Tourism has also accelerated the rapid development of business and service industry. There were only 12 business enterprises in Xidi in 1994, and the number increased to 119 in 2001. In 1998, there were about 800 business enterprises in Zhouzhuang, and more than 1300 enterprises in 2002.

In the aspect of social culture, tourism has promoted the local residents to communicate more with the outside world. Residents' commercial consciousness has increased greatly. They began to pay much attention to their cultural life, education and the understanding of the outside world. Their ways of life and consuming attitudes have also changed in some way. At present, TV and tap water are commonly used, and even Internet bars can also be found in the three places. The villagers of Xidi have once taken a group tour. Many residents can talk with visitors in standard Mandarin Chinese, and even some can speak a little foreign language. In order to accelerate the development of tourism, the three areas have taken a number of measures to renovate and optimize the local environment. However, with the constant increase of tourist arrivals, problems concerning garbage and water pollution have also arisen gradually.

## 4 RESULT ANALYSIS

### 4.1 Comparison of Residents' Perception of Tourism Economic Impact

Residents of the three places are consistent in their perception of tourism economic impact: i.e. they have strong perception of positive economic impact of tourism development, and weak perception of its negative impact (Table 3). Generally speaking, average scales on the LIKTER Table between 1.0–2.4 indicate disapproval, while 2.5–3.4 scales indicate neutrality and 3.5–5 approval (TOSUN, 2002). In summary, local residents in the three places are highly identical with the positive impact such as "tourism development has increased employment opportunities, local financial revenue and individual income", "tourism development has improved local infrastructure, and living standard of local people", with the average scale reaching 4 and the approval rate being over 80%. More than 70% of the local residents agree that tourism development has "im-

proved the quality of local shopping and amusement facilities and services, as well as the transportation conditions". Over half of the local residents believe that tourism development has "attracted more investment". The result shows that local residents disagree with the saying "tourism development has lowered the living conditions of local people", the disapproval rates being 70.3% in Xidi, 68.4% in Zhouzhuang, and 70.9% in Jiuhua Mountain. However, about half of the residents approve that tourism development has "sparked the rise in commodity and service prices, and stimulated the price increase in housing." Residents in the three areas all hold a neutral attitude to the saying "tourism has promoted agricultural development", which shows an inadequate function of tourism interrelated effects. Besides, residents vary widely in their perception of "unfair distribution of tourism economic profits," with the approval rates being 71.8% in Xidi, 57.4% in Zhouzhuang, and 38.8% in Jiuhua Mountain.

Obviously, residents show evident and identical agreement on tourism economic function despite the evident distinction in the types of the three tourist places. The result analyses indicate that on the one hand, tourism economic impact is directly related with local residents' own interest and is more easily to be quantified, measured and perceived. And on the other hand, desire for economic profits has been the primary target for tourism development, and economy-based policies made by local governments and media publicity have, furthermore, reinforced local residents' positive perception of tourism economic impact. At present, tourism industry has become an important pillar to the economy of the three study areas, with tourism revenues accounting for 72.53% in Xidi, 76.92% in Zhouzhuang, and 79.94% in Jiuhua Mountain respectively in the total income. Local inhabitants have also obtained a lot of concrete benefits from tourism development, for example, annual income per capita in Xidi rose from 120 yuan in 1978 to 3120 yuan in 2002 and villagers can be compensated economically according to the number of family members and the areas of their ancient residences, reaching 360 yuan per capita in 2002. Villagers whose ancient houses are located on the tourist route can derive more economic profits and have access to employment and business opportunities brought about by tourism. Tourism revenue in Zhouzhuang rose from  $30 \times 10^6$  yuan in 1993 to  $700 \times 10^6$  yuan in 2002, with villagers' income rising up to 7.3% per capita. The investment in infrastructure from 1998 to 2001 totaled  $200 \times 10^6$  yuan in Zhouzhuang and villagers can enjoy the convenience of tap water, cable TV, agriculture security as

Table 3 Comparison of residents' perception of tourism economic impact

Item	Xidi		Zhouzhuang		Jiuhua Mountain	
	Mean	SD	Mean	SD	Mean	SD
Increased employment opportunities	3.90	0.728	4.06	0.879	3.96	0.933
Increased local financial revenue	4.09	0.587	4.17	0.724	4.12	0.850
Increased local individual income	4.01	0.610	3.92	0.994	4.11	0.849
Sparked the rise in commodity and service prices	3.61	0.878	3.46	1.305	3.19	1.271
Improved the quality of local shopping and amusement facilities and services	3.69	0.764	3.87	0.931	3.78	1.005
Stimulated the price increase in housing	3.74	0.928	3.54	1.291	3.22	1.234
Improved local infrastructure	4.12	0.628	3.97	0.785	4.02	0.830
Boosted the living expenses of local people	3.72	0.783	3.79	1.097	3.44	1.220
Attracted more investment	3.35	0.972	3.70	1.050	3.66	1.065
Lowered the living conditions of local people	2.42	0.928	2.36	1.242	2.24	1.167
Improved the transportation conditions	4.28	0.569	3.76	1.058	3.60	1.191
Caused unfair distribution of tourism economic profits	3.80	0.944	3.54	1.150	3.09	1.131
Promoted agricultural development	3.20	0.992	3.20	1.160	3.29	1.092
Improved the living standard of local people	4.00	0.607	3.98	0.879	4.20	0.850

well as social security. But due to the low consumption and short stay time of tourists, tourism interrelated effects at the three places are not sufficient. According to the statistical survey of local authorities, most tourists to Xidi and Zhouzhuang are day trippers with an average consumption of 238.9 and 296.4 yuan respectively. And tourists to Jiuhua Mountain are mostly pious Buddhist pilgrims, 46% of whose income are below 500 yuan per month. As to the reason why residents perceive differently towards "unfair distribution of tourism income among local residents", it is mainly the diversity of the nature and management system at the three places. In the case of Xidi and Zhouzhuang, since the local villagers are the owners of those ancient style residences and play a major role in tourism development, they usually cherish higher expectation from tourism. Actually, residents' economic returns vary greatly according to the location of these ancient residences. In Jiuhua Mountain, local government plays the most important role in tourism development while local villagers have fewer chances to take part in it, therefore they have lower economic expectation from tourism.

#### 4.2 Comparison of Residents' Perception of Tourism Socio-cultural Impact

Residents in the three places show considerable distinction in their perception of tourism socio-cultural impacts (Table 4). Of the 26 statements in the survey, only half tend to be identical, among which the approval rate for tourism development has "promoted the recognition of locality", "deepened residents' understanding of local history and culture", "stimulated the cultural communication between local residents and tourists", "accelerated the transformation of local residents' ideology", "reinforced the preservation of historical relics and

ancient residences", "reinforced the preservation and renaissance of local culture such as traditional arts and crafts", "stimulated the locals to study and understand the extra culture" reaching 75%, with average scores being above 3.8. At least 60% residents believe that tourism has "enriched local residents' cultural life", "increased the cultural pride of local people", "aroused their consciousness of the importance to preserve their life-styles", "improved the courtesy and hospitality of locals and strengthened their spiritual unity". About 69.4% of Xidi residents agree to the statement that "tourists are superior to local residents in cultural knowledge and economic income", while the approval rates in Zhouzhuang and Jiuhua Mountain only reach 50.2% and 44.3% respectively. About 63.8% of Xidi residents think that "had tourism development of local traditional cultural resources taken on the color of business and banality", toward which the approval rates in Zhouzhuang and Jiuhua Mountain only reach 49.8% and 45.7%.

Above all, local residents in the three places show strikingly identical and intense perception of positive socio-cultural impacts of tourist development, but distinctly diverse perception of its negative impacts, both accounting for a considerable percentage (Table 5). The statistics in Table 5 show that residents of Xidi and Zhouzhuang have strong perception of the negative socio-cultural impacts of tourism, while Jiuhua Mountain residents' perception of them are much weaker. Still, Xidi residents differ from Zhouzhuang residents in their specific perception of the negative impacts: Xidi residents perceived much stronger negative impacts of tourism in terms of deeper psycho-cultural aspects, while Zhouzhuang residents perceived obviously of the too many tourist arrivals and its impacts on the system

Table 4 Comparison of residents' perception of tourism socio-cultural impact

Item	Xidi		Zhouzhuang		Jiuhua Mountain	
	Mean	SD	Mean	SD	Mean	SD
Promoted the recognition of locality	4.44	0.659	4.34	0.721	4.17	0.811
Aggravated the congestion of traffic and population	3.75	1.005	3.69	1.193	2.81	1.207
Strengthened local's spiritual unity	3.60	0.798	3.58	0.962	3.75	0.846
Improved the courtesy of locals	3.46	0.945	3.59	1.082	4.07	0.937
Triggered the rise in crime rates	2.60	1.003	2.97	1.213	2.35	1.316
Improved the hospitality of locals	3.61	0.865	3.43	1.068	3.84	0.900
Tourists being superior to local residents in cultural knowledge and economic income	3.72	0.879	3.38	1.013	3.20	1.104
Lowered local morality	2.81	1.048	2.72	1.034	2.24	1.220
Stimulated the locals to study and understand the extra culture	3.72	0.756	3.90	0.772	3.82	0.942
Stimulated the ugly practice of prostitution and gambling	2.60	1.053	3.04	1.231	2.33	1.238
Affected the relationship among local people	3.24	1.459	3.11	1.015	2.85	1.152
Accelerated the transformation of local residents' ideology	3.91	0.641	3.92	0.737	3.84	0.846
Influenced the traditional conception of marriage and family relationship	2.76	0.975	2.95	1.091	2.32	1.139
Disturbed the routine lives of local people	2.91	1.076	2.89	1.147	2.47	2.217
Aroused their consciousness of the importance to preserve their life-styles	3.80	0.733	3.66	0.763	3.67	0.901
Transformed the traditional life style and local customs	3.47	0.886	3.23	0.995	3.34	1.056
Reinforced the preservation and renaissance of local culture such as traditional arts and crafts	3.80	0.673	3.94	0.765	3.81	0.853
Changed and impaired the good traditional local cultures	2.86	1.021	2.74	1.004	2.31	1.187
Reinforced the preservation of historical relics and ancient housing	3.90	0.849	3.95	0.801	3.79	1.006
Led to the conflicts between local residents and tourists	2.75	0.971	2.96	1.129	2.35	1.134
Enriched local residents' cultural life	3.74	0.781	3.80	0.857	3.74	0.972
Changed and dwindled the local dialect	3.13	0.980	3.08	0.992	3.32	1.007
Increased the cultural pride of local people	3.84	0.639	3.75	0.745	3.60	0.968
Stimulated the cultural communication between local residents and tourists	3.92	0.583	3.99	0.673	3.89	0.839
Had local traditional cultural resources taken on the color of business and banality	3.51	0.944	3.30	1.051	3.21	1.102
Deepened residents' understanding of local history and culture	3.97	0.594	4.03	0.777	3.95	0.832

Table 5 Approval/disapproval rates of residents' perception of negative tourism socio-cultural impact

Negative tourism social-cultural impact	Xidi		Zhouzhuang		Jiuhua Mountain	
	AR*	DR**	AR	DR	AR	DR
Aggravated the congestion of traffic and population	42.6	47.7	69.9	21.2	38.2	52.7
Triggered the rise in crime rates	25.0	55.8	41.1	38.1	26.9	59.0
Lowered local morality	33.2	50.2	28.0	50.8	25.8	61.6
Stimulated the ugly practice of prostitution and gambling	26.9	55.6	42.2	38.6	22.5	60.0
Affected the relationship of locals	49.0	33.3	43.2	35.4	34.5	41.9
Influenced the traditional conception of marriage and family relationship	28.6	48.5	36.8	39.9	23.9	52.2
Disturbed the routine lives of local people	40.9	49.2	37.6	44.8	20.0	66.4
Changed and impaired the good traditional local cultures	36.2	50.9	25.3	49.2	28.4	55.7
Led to the conflicts between local residents and tourists	29.8	51.4	36.5	37.5	25.1	57.5
Changed and dwindled the local dialect	48.0	35.1	40.7	32.8	69.9	15.7

Notes: \* AR means approval rate; \*\* DR means disapproval rate

culture and host-guest relationship.

Residents in Xidi display the highest approval to that tourism development has "lowered local morality, affected local relationship (like mutual trust), disturbed the daily lives of local people, changed and impaired the good traditional local cultures", the result of which might have something to do with its small area, number of residents, comparatively closed culture and lower eco-cultural conditions. Previous studies have indicated

that such kind of host-guest intercourse may have tremendous social and psychological impacts on the local residents (THEOBALD, 2001). Residents in Zhouzhuang have the highest approval rate to tourist development has "aggravated the congestion of transportation and population", "triggered the rise in crime rates (such as robbery, theft, and deception)", "stimulated the ugly practice of prostitution and gambling", "influenced the traditional conception of marriage and

family relationship," and "led to the conflicts between local residents and tourists", which mainly results from large scale of tourist arrivals, tremendous oversea tourists and tourists activities clustering within a small area of 0.47km<sup>2</sup> in the ancient town. The ratio of tourists to residents in 2002 was 121.8 to 1, with the tourists density of 1.801×10<sup>6</sup> persons /km<sup>2</sup>. And 69.9% residents of Jiuhua Mountain believe that tourism development has "changed and dwindled the local dialect". This may result from two factors: first, the Administration Committee of Jiuhua Mountain Scenic Area, whose employees are mainly from other places, plays the principal role in the development of Jiuhua Mountain. Second, outsiders (1579) account for 33.7% among the total population (4691) living in Jiuhua Mountain. In addition, the fact that residents of Jiuhua Mountain have the highest disapproval rate to that the negative impacts of tourism is mainly because of the large size of the scenery area and comparatively small number of tourists. Besides, the motivation of most tourists is on their Buddhist pilgrimage. Buddhist tourism, as a characteristic form, has the tendency of social ecology, with the beautiful environment and solemn atmosphere provided by the tourism object and the pious mentality and voluntary reception of the tourism subject. The Buddhist theology of nature, life and ideal emphasizes the doctrine for equality among all creatures, love for nature and respect for lives. Subsequently, the traditional Buddhist culture and the behavior of tourists have in a way abstained the occurrence and spread of certain negative impacts of tourism.

It is noteworthy that over 50% of the interviewees agree that tourism development has "transformed the traditional life style and local customs", and at least 40% of them believe that "local dialects have been changed and dwindled", which proves that tourism, as a kind of sizable communication between modern people, is accelerating the transformation of socio-cultural environment at tourist places, since dialects and local customs are the predominant index of cultural transmission and transformation as well as the division of cultures (ZHANG, 1995)

To conclude, distinction existing between residents' perception of tourism socio-cultural impacts on the three places is due to the following 4 factors: first, distinction in the social, economic and cultural background. Since the social economic development level of Xidi remains relatively low, the feature of its Hui-culture being diffident and closed, it is liable to outside conflicts on its own culture. While Zhouzhuang is located adjacently to such big cities as Shanghai and Suzhou,

etc. with very convenient transportation condition, the feature of its Wu-culture being concrete and open, and thus it is able to contain the culture conflicts brought by tourism. In the case of Jiuhua Mountain, Buddha culture displays powerful culture and is weakly influenced by outsiders. Second is distinction in the features between hosts and guests and the degree of their intercourse. In terms of the hosts and guests' social economic condition and their cultural background, gap between them in Xidi is great while small in the other two places. Besides, intercourse opportunities between hosts and guests are much more in Xidi and Zhouzhuang than that in Jiuhua Mountain. Third is distinction in their carrying capacities. In term of nature and space, the carrying capacity in Xidi is the lowest, and then comes Zhouzhuang, and that in Jiuhua Mountain is much greater. Fourth is distinction in the development history of the three tourist places.

#### 4.3 Comparison of Residents' Perception of Tourism Environmental Impact

Survey results indicate that residents show identical and intense perception of the positive environmental impacts of tourist development. However, residents in Xidi and Zhouzhuang also have noticeable perception of its negative environmental impacts while those in Jiuhua Mountain have weaker perception of them (Table 6). There is a widespread agreement in Xidi, Zhouzhuang and Jiuhua Mountain that tourism has "promoted and strengthened local governments' recognition of ecological preservation" (80.2%, 82.8%, 87.3%), "promoted the ecological preservation among local residents" (79.6%, 72.6%, 86.2%) and "improved the quality of residence and living conditions" (68.3%, 58.5%, 75.2%) respectively. Nevertheless, residents in Xidi and Zhouzhuang have relatively higher approval to tourism negative impacts such as "tourism has deteriorated the pollution of local environment" (64.9%, 61.7%), "new tourist facilities have impaired the traditional structure and images of the ancient town" (55.3%, 45.3%), "disturbed the serene and peaceful atmosphere of the ancient town" (56%, 66.3%), "multiplied noise pollution" (73.5%, 73.6%), "multiplied more garbage" (79.7%, 70.4%) and "too much commercial advertisement has affected the characteristic features of the ancient town" (65.3%, 57.6%). Jiuhua Mountain residents' approval rates to the above statements only account for 57%, 46.7%, 43.4%, 48.6%, 53.6%, 50.5% respectively. In addition, 55% of Jiuhua Mountain residents believe tourism has "improved the quality of the local natural environment" while the approval rates in Xidi and Zhouzhuang only accounts for 45% and 39.9%.

Table 6 Comparison of residents' perception of tourism environmental impact

Item	Xidi		Zhouzhuang		Jiuhua Mountain	
	Mean	SD	Mean	SD	Mean	SD
Promoted and strengthened local governments' recognition of ecological preservation	3.81	0.870	3.91	0.861	4.04	0.862
Deteriorated the pollution of local environment	3.40	1.155	3.44	1.261	2.84	1.500
Improved the quality of the local natural environment	3.07	1.020	3.15	1.070	3.42	1.271
Impaired the traditional structure and images of the ancient town due to new tourist facilities	3.30	1.049	3.14	1.105	3.05	1.342
Promoted the ecological preservation among local residents	3.77	0.781	3.72	0.875	4.00	0.828
Disturbed the serene and peaceful atmosphere of the ancient town	3.37	2.745	3.66	1.117	2.94	1.292
Multiplied the noise pollution	3.59	0.993	3.79	1.086	2.92	1.367
Improved the quality of residence and living conditions	3.52	0.941	3.42	1.056	3.74	1.063
Multiplied the garbage	3.79	1.072	3.65	1.245	2.96	1.508
Affected the characteristic features of the ancient town due to too much commercial advertisement	3.46	1.047	3.42	1.161	3.13	1.315

Research shows that during the twenty years practice of tourism development, local governments in the three places have fully realized the highly dependency of tourism on environment, and local people have also learned to appreciate the environmental value of their living places. Ever since the application and ratification of world cultural heritage in Xidi and Zhouzhuang, and the development of world-level tourist zone of "Two Mountain and One Lake" in the southern Anhui, each place has drawn up high-standard environmental preservation programs, and given its full support to organization, legal regulations, economy and technology. In the past three years, capital used for environmental regulation and protection totaled to  $3 \times 10^6$  and  $60 \times 10^6$  yuan in Xidi and Zhouzhuang, fulfilling the subterranean laying of the electrical, telecommunication and television lines, as well as the systematic renovation of the ancient buildings, trees, plants and water channels. In Zhouzhuang, they have not only restored and renovated 38 cultural scenic spots but also built up the drainage and processing system of waste water for the ancient town. However, since tourist resources of the two places are mainly characterized by ancient architecture and limited by the small tour area and carrying capacity, Xidi and Zhouzhuang are still faced with tremendous environmental pressure with the steady enlargement of tourism scale. According to the statistical figures, the yearly dumping volume of garbage in Xidi increased from 120t in 1998 to 515t in 2002, while sewage drainage reaching  $350 \times 10^3$ t a year. The yearly dumping volume of garbage in Zhouzhuang also rose from 3066t in 1998 to 4234t in 2002. Furthermore, driven by factors of economic profits and mismanagement, it is a widespread phenomenon in the two places for local people to open various stores, reaching 119 and

1300 in Xidi and Zhouzhuang in 2002, which results in too much of commercial atmosphere and has influenced the images and styles of the ancient towns. As for Jiuhua Mountain, due to its larger carrying capacity and unique features of religion tourism, the negative environmental impacts of tourism development are not evident up till now.

## 5 CONCLUSIONS AND DISCUSSION

Based on the study of the essay, we can safely draw the following conclusions:

Firstly, oversea theories hold that residents' perception of and attitude to tourism tend to grow gradually with the development of tourism. Both DOXEY (1975) and DOGAN (1989) divided local residents' perception and attitude into different stages based on the above theory. BUTLER's (1980) model of tourism places life cycle believes that tourism socio-cultural impacts appear at the stage of reinforcement or stagnation. However, modern tourism in the study areas has relatively short history, and is still at the development stage. Residents in the three places all have strong and positive perception of tourism economic, socio-cultural and environmental impact. This illustrates that residents are more liable to have positive perception at the early stage of the life cycle of the tourist places. The fact that residents of the three places have diverse perception of tourism development illustrates that there exists a nonlinear relationship between residents' perception and tourism development stages, and that socio-cultural impact of tourism may appear at an early stage of tourism development.

Secondly, residents of the three places are consistent in their perception of positive economic impact of



tourism development. This indicates that tourism economic impact is directly related with local residents' own interest and is more easily to be quantified and perceived, and that residents show evident and identical agreement on tourism economic function despite of the evident diverse types of the three tourist places.

Thirdly, residents in the three places show strikingly identical and intense perception of positive socio-cultural impact of tourist development, but distinctly diverse perception of its negative impact. Thus indicates that residents' perception of tourism socio-cultural impact may differ due to the distinction in the type of tourist places, their social, economic and cultural background, features between the hosts and guests and the degree of their intercourse, their carrying capacities, as well as the development history of tourist places. Since tourism socio-cultural impact is influenced by a variety of factors and its mechanism is much intricate, its impacts, thereafter, may not be ubiquity. And undoubtedly, tourism as a form of exterior force, may promote and accelerate the transformation of socio-cultural environment of the tourist places.

Fourthly, residents show identical and intense perception of the positive environmental impact of tourist development. However, residents in Xidi and Zhouzhuang also have noticeable perception of its negative environmental impact while those in Jiuhua Mountain have weaker perception of them. This indicates that tourism environmental impact is in inverse proportion to its carrying capacity of the tourism place, and are closely related with the management of tourism places and tourists' motivations and behaviors.

Regional impact of tourism is extensive and complicated, and social survey approach may help to have a better understanding of the quality and extent of tourism impacts. To make the study results more obvious and controllable, present study scales tend to be simplified and narrowed (TANG, 1998; LIU, 1998; LIU *et al.* 2000). However, tourism is only one of the factors contributing to the transformation of economy, socio-culture, and environment of tourist places. Comprehensive study and investigation of tourism impact with the help of economics, sociology, psychology, culture and environmentology may give rise to more meaningful comparison and study on a larger scale, thus reaching a more authoritative and complete conclusion. In addition, tourism is an economic and socio-cultural event concerning hosts and guests, and tourism impact is closely related with tourists' motivations and behaviors. Therefore, study of residents' perception integrated with the basic characteristics of

tourists and their behaviors is going to be an important orientation in this field.

Three major stakeholders are involved in regional tourism development: local government, investors and local community. But at present in China, government makes up the macroscopic planning and decision-maker in regional tourism development, while investors carry out the microscopic and concrete practice and management, with the local communities excluded out of it, failing to fulfill the economic balance between different stakeholders. Therefore, integrating the local communities into tourism development with the emphasis on the long-term profits of the local residents and coordination and maximization of the profits in economy, socio-culture, and environment will be an inevitable route for sustainable tourism development. The planning, development and management of China's present tourist places will have to be reconsidered on the basis of this kind of view.

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