

Discussion paper No.104

Ecotourism Development and the Community Structure
At West Lake in Hangzhou

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Abstract

Tourism is a leading sector that contributes to sustainable growth in all countries and regions. Tourism development should ideally entail an improvement of the welfare of the community and preservation of the environment in the region. 'Economic growth', 'community welfare' and 'environment' are the three factors that make the socio-economic system of regions sustainable. These triple bottom lines of tourism development can lead to 'ecotourism'. Ecotourism should be targeted by encouraging the community's cooperative activities for the development of tourism using a community-based approach. This is because all stakeholders in the community can benefit by participating in planning and enforcing tourism development. Effective and fair development can be attained through the cooperative efforts of people in the community and the local government. This study discusses the relationship between ecotourism development and community involvement, focusing on the structure of tourism development in Hangzhou, China, a region where there are abundant tourism resources and where tourism policy can be given the top priority. After surveying some papers to show how important the linkage between community and tourism development is, we shall prove that community-based ecotourism is critical for regional sustainable development. In addition, we shall provide the results of an empirical research conducted at West Lake in Hangzhou to elucidate the community's stance toward tourism development and the extent of commitment made by the community residents to abide by environmental as well as tourism policies.

Key Words: Ecotourism, CPR approach, Cooperative behaviour, Community, Hangzhou in China,
Sustainable management

JEL Classification: R11, Q56

Acknowledgement: M. Yabuta, the chief researcher, gratefully acknowledges the financial support of a Grant-in-Aid for Scientific Research(C), 2006–2009, from the Ministry of Education, Culture, Sports, Science and Technology of Japan. The empirical research conducted at Hangzhou in China during the period 1–19 September was mainly supported by this fund. The authors also thank Professor Shen Manhong, Faculty of Economics, and Professor Zhou Ling-Qiang and Professor Zhou Yong-Sheng, Tourism Department, Zhejiang University. Their helpful comments are highly appreciated.

1. Introduction

The present study discusses the relationship between tourism development and community involvement. We focus on tourism development and the planning and implementation process through participation by residents in the community from the perspective of 'ecotourism'. Tourism is a leading sector contributing to sustainable growth in all countries and regions, and its development should entail improvement of the community welfare and preservation of the environment in the region. 'Economic growth', 'community welfare' and 'environment' are the three factors that make the socio-economic system of regions sustainable. These triple bottom lines of tourism development can promote ecotourism. Ecotourism should be targeted by encouraging the community's cooperative activities for the development of tourism using a community-based approach. This is because all stakeholders in the community can contribute to their welfare by participating in the planning and implementation of tourism development. Effective and fair development can be attained through the cooperative actions of people in the community. This paper discusses the relationship between ecotourism development and community involvement, focusing on the structure of tourism development in Hangzhou, China, a region where there are abundant tourism resources and where tourism policy can be given the top priority. The importance of community-based ecotourism for regional sustainable development is discussed in this paper.

The composition of the paper is as follows. Section 2 surveys previous papers that mention the linkage between community and tourism development. Section 3 gives a simple model for analyzing the importance of planning and promoting community involvement on the part of the government in order to maximize the community's welfare. Section 4 gives an overview of the present situation of socio-economy in Hangzhou. We also investigate the features of tourism and environmental policies in Hangzhou. Basically, tourism planning in China is undertaken by the central government, but the regional aspects of these plans are enforced by provincial or municipal governments. In this regard, various plans for tourism development and environmental preservation are investigated from the national as well as municipal perspectives. In Section 5, we explain the structure of our empirical research at West Lake in Hangzhou. By analyzing the questionnaires that we used in a small community (SheQu) around West Lake, we shall investigate the community's stance toward tourism development and the extent of commitment made by the community residents to abide by environmental as well as tourism policies. Finally, Section 6 outlines the main findings and conclusions.

2. An Overview of Tourism Development and Community Involvement

2.1 Ecotourism and the role of community

In this paper, we define ecotourism or ecotourism development simply as tourism

development entailing both improvement of the community's welfare and preservation of the natural as well as cultural environment. Accordingly, ecotourism should also involve socio-economic and environmental sustainability. 'Improvement of welfare', 'tourism development' and 'environmental preservation' constitute the triple bottom lines in community development. Hence, a balance among them is important for ecotourism development. However, sometimes the region or the community loses this balance. Excessive investment in attractions at tourist sites, such as golf courses or amusement parks, results in mass tourism, which in turn causes environmental damage in many regions. As a result, these regions have lost their attractiveness and sustainability for future generations. Therefore, it can be said that the balance among the triple bottom lines is fragile and that ecotourism cannot be realized if the community or society cannot manage tourism development adequately. We have learned much from various famous tourist sites such as Galapagos in Ecuador or Yakushima in Japan, where this balance has collapsed. These are the typical case of ill-management and overuse of tourism resources. Hence, we reach the conclusion that the community must manage tourism resources properly and must play the role of a wise manager to control them.

2.2 Research overview

A theoretical and empirical explanation of the mutual relationship between tourism development and community involvement has been a major subject of discussion in preceding papers. From the triple bottom line perspective, a tendency towards ill-management and overuse of tourism resources has been proved by the common pool approach, which mainly focuses on the properties of tourism resources, such as natural environment and cultural heritage (Ostrom, 1990 and Ostrom et al. 1994). The common pool approach focuses on resources that can be characterized by their 'excludability' and 'rivalry' and categorizes them as common pool resources (CPRs). Because of their inherent properties, it is easy to show that CPRs tend to be overused or overexploited when they are used to develop the tourism sector. As far as the common pool approach is concerned, Galapagos is a prime example of a case of ill-management of CPRs. Thus, it is natural to conclude that CPRs must be managed adequately by the community and its members. The papers related to preservation of regional resources have studied the effects of tourism development on environmental situation as well as community structure. Recent textbooks on ecotourism have also been mainly concerned with negative impacts of tourism and community (See Fennel, 2003 and Diamantis, 2004). Tourism management should include basic principles such as rules on boundary, allocation and monitoring. In addition to these rules, others such as estimation of and research on the maximum sustainable yield of CPRs and tourist guide systems for educational purposes are required for ecotourism management (see Stein & Edwards, 1990). Moreover, CPRs should be managed mainly through the cooperative participation of all stakeholders in the community.

Therefore, recent works concerning ecotourism development have focused on the relationship between tourism development and community involvement. Gu and Ryan (2008) studied the impact of tourism on local communities. Using a covariance structure model, they found that the place and class consciousness of the residents is the most important factor in tourism development. Fan, Wall and Mitchell (2008) focused on the commodification of tourism resources in small towns in China and found that the collaboration of local planners with businesses is necessary and that more attention should be paid to the opinions of local residents regarding the management and planning of tourism development (see Mitchell and Coghill, 2000). As for fact-finding regarding tourist sites in China, Ying and Zhou (2007) investigated the influence of tourism development on communities and concluded that a definitive legal description is a premise of and is conducive to balanced tourism development. Nyaupane, Morais and Dowler (2006) explored the role of community involvement in tourism development. They asserted that tourism development could affect the community's welfare positively in the areas of education and sanitation. They also studied some cases of non-profit organizations and their respective community involvement to cope with various problems like economic leakage and socio-economic inequality. Although most of the literature named community involvement as a decisive factor in the management of local tourism resources, Li (2006) considered a critical perspective toward this paradigm and found a weak participation of residents in decision making in China. He added that such a cooperative activity in the community may be one of several measures needed to promote ecotourism. He has accepted more flexibility of government-led planning and management in ecotourism development.

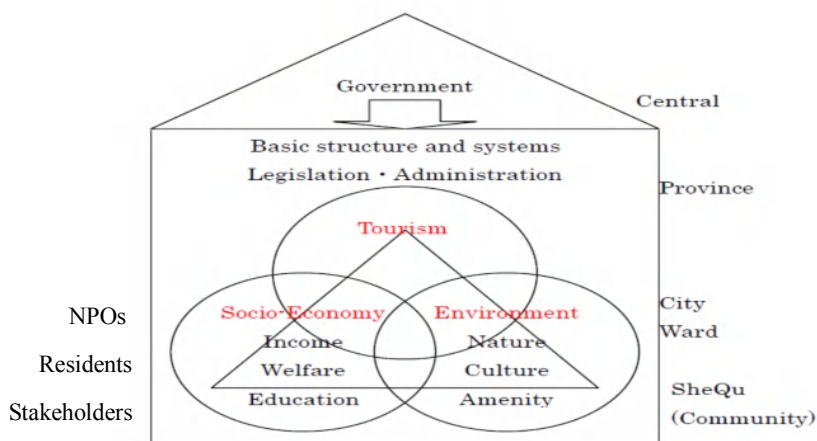
As seen in these papers, there are diverse views on the required level of community commitment and involvement needed for ecotourism development. However, all of them feature community involvement as a basic prerequisite for managing CPRs and tourism development in local areas. Our attention should therefore be focused on the relationship between tourism development and community involvement.

2.3 Community involvement and ecotourism

As Nyaupane, Morais and Dowler (2006) pointed out, there are a number of reasons why the actual community involvement towards ecotourism development might be restricted; for example, lack of suitable capacity in the community for planning, coordinating and investing in tourism resources and the belief held by the community's residents that it is the government's duty to plan and enforce tourism development for their region. In particular, it is natural for people to assume that environmental regulations and regional development plans should be implemented by the central government within the network of a broad and common juristic system. Because ecotourism must entail both regional development and environmental preservation, it is the central government's task to devise development plans, enact environmental protection laws and oversee their administration.

Accordingly, in a nation like China that relies heavily on centralized planning, the government should play a major role in tourism development. The China National Tourism Administration (CNTA), directly regulated by the State Council, is responsible for developing, promoting and regulating Chinese tourism development. CNTA basically supervises any lower level tourism authorities, such as provincial and municipal tourism administrations. In this regard, it should be noted that the central government has already devised many basic laws and development plans concerning regional economic growth as well as cultural and natural environmental preservation in each region from the ‘civil minimum’ perspective. Hence, it is natural for a five-year development plan to include a specific area-oriented plan and environmental standards to be applied to regional environment characteristics such as landscape, water source and atmosphere. A basic structure of the relationship between government and local communities in China is depicted in Figure 1.

Figure 1 A structure of tourism development and management



As mentioned above, governments at each level should play a key role in developing the regional economy through tourism and preserving the environment. However, there are good reasons for the community to participate in planning and coordinating tourism development in collaboration with the governments. The community’s participation is required mainly because the government has insufficient information concerning the community, leading to ‘governmental failure’. Accordingly, the government and community should together manage a cooperative system to bridge the gap between governmental decisions and their outcome. Community involvement would be a notable means for diminishing this gap because residents of a tourist site know best what problems should be solved and how they should be treated. It is generally assumed that including the local community in planning and operating tourism contributes to their well-being.

As the World Tourism Organization has mentioned, tourism with community involvement can be termed community-based ecotourism that is managed by the local people, with the

tourism-related benefits going mainly to the community.

3. A Simple Model of Community Involvement and Ecotourism

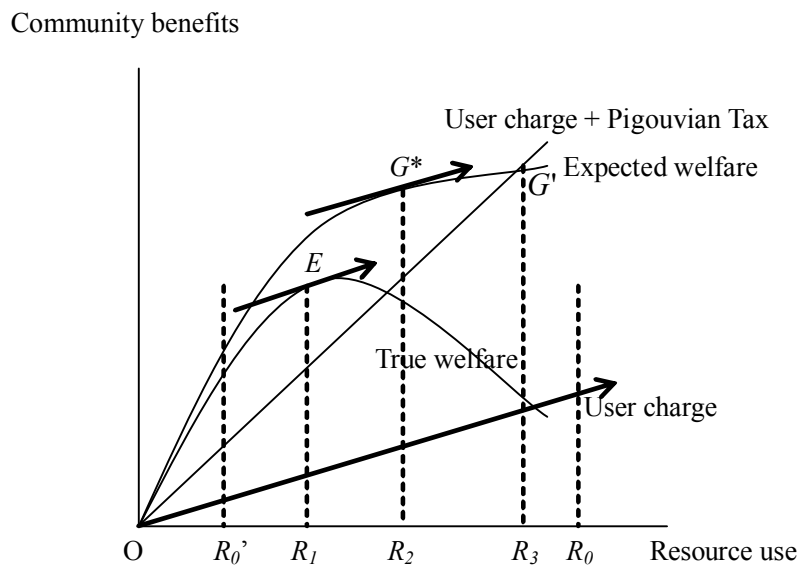
For a theoretical perspective, we propose a model in which the government (the social planner) makes plans and the community's stakeholders accept and demand revisions of these plans. It is assumed that a tourist site uses local resources such as its natural and cultural heritage, which should be adequately managed and conserved. These tourism resources tend to be overexploited because they are inherent CPRs that everyone can access freely and use¹. For model analysis, we also make some additional assumptions as follows:

- (1) The government knows exactly what the production function is but does not know how much negative externality such as congestion and pollution occurs in tourism. However, the government can use some incentive mechanisms, such as taxes and subsidies, to regulate local activities.
- (2) The local community knows exactly what happens in daily life and how much negative impact results from tourism development. However, it tends to overuse local tourism resources due to a lack of cooperative management.

A typical model framework is depicted in Figure 2. Two lines extending downward and rightward represent production functions; the upper line takes none, or only a part, of the externalities into consideration, but the lower one considers all the externalities in the region. Hence, the lower line apparently represents the community's 'true' welfare, while the upper line is the 'targeted' welfare that the government expects to achieve. The difference between the two lines indicates the negative externalities caused by various tourism activities. Because of insufficient information about the community's well-being, it is hard for the government to manage and control the level of resource use so as to maximize the community's welfare. As far as the community's 'true' welfare is concerned, the most adequate plan for resource use is attained at point *E* in Figure 2, where the community's welfare is maximized. On the other hand, a policy target of the government can be attained at point *G**, where the welfare level of community is maximized only if the government is unaware of the externality. In this case, the government can levy a tourism-related tax on the unit charge of resource use, but as shown in Figure 2, the tax rate may be insufficient as a resource for promoting welfare maximization. Clearly there are two reasons why governments mislead the community and create inefficient equilibrium: one is lack of information and the other is incompleteness of the Pigouvian tax system.

¹ Common pool resources (CPRs) for local tourism are characterized by their inherent property with 'excludability' and 'rivalry'. For example, a beautiful landscape in a tourist site can be used by everyone, but such a practice may lessen the attraction of the landscape because of the congestion created by hotels and the local attractions. This constitutes Hardin's 'tragedy of commons'. To avoid this tragedy, the government and the community should engage in cooperative activities entailing adequate management of CPRs.

Figure 2 Gaps of policy targets



As far as an efficient outcome is concerned, it is easy for a social planner to coordinate a social management system of resource use for maximizing the community's welfare. Some policy packages should be considered in order to attain a socially optimal condition, given by point E in Figure 2. In this regard, the following points can be emphasized. First, the government should maintain communication with the community and obtain useful information, especially concerning the effects of regional tourism development plans on the community's welfare. Then the government will realize the community's true welfare function, shape and level. Second, the community should declare its position with regard to the regional development plans devised by the government. Coordination between the government and the community can produce effective policy measures with harmonious and efficient outcomes. Third, this coordination should be necessarily when government lays taxes on tourism services. In general, everybody would like to evade tax even if an optimal situation can be achieved through taxes. In particular, taxes for eliminating externalities in the community impose restrictions on tourism-related businesses, and hence, it is easy to prove that governments hesitate to introduce a sufficiently large tax in order to attain point G^* such that it can only reach point G' at best. Fourth, it may be much easier for people in a small community to maintain cooperative behaviour among themselves to avoid conflicts with the stakeholders in the community. Such an involvement through cooperative activities would help the community to reach the socio-economical optimality indicated by point E in Figure 2. Last but not the least, sustainable resource use should be considered. Maintaining resource use within the carrying capacity forms a socio-economic basis for the sustainability of regional development. This means that resource use, as shown in Figure 2, should be less than the level at which the community cannot use the resources continuously. If the carrying capacity is large enough, as indicated by R_0 , then the social planner and

the community need not take this into consideration. On the other hand, if the carrying capacity is too small as indicated by R_0' , it is vital to keep the resource use at less than R_0' so as to maintain sustainability and to ensure a usual resource use. Hence, it should be noted that sustainable resource use is also important for the planning and management of ecotourism in the community.

In conclusion, the model analysis tells us that the involvement of both governments and communities plays an important role in ecotourism development for improving community welfare and maintaining socio-economic factors at a sustainable level. This means that government policies and community involvement are necessary conditions for ecotourism development, but by themselves, they are insufficient. Ecotourism development can be established on a solid and sustainable footing only when the government and the community cooperate.

4. Tourism Development in Hangzhou

The next step is to conduct an empirical analysis of the relationship between ecotourism development and community involvement (See Figure 1). As far as the administrative system in China is concerned, the principles and action plans of tourism development are structured top-down from the central government to the local, municipal governments. It is natural then to find that key parts of the plans made by local governments are affected by policy principles designed by the central government. The question is whether the community can say 'yes' or 'no' to the plans devised by the local governments, or in other words, whether the local government functions cooperatively with community members. To answer these questions, we shall focus our investigation in this paper on a typical site of advanced tourism in China, West Lake in Hangzhou. The following sections are devoted to answering these questions.

4.1 West Lake and Hangzhou

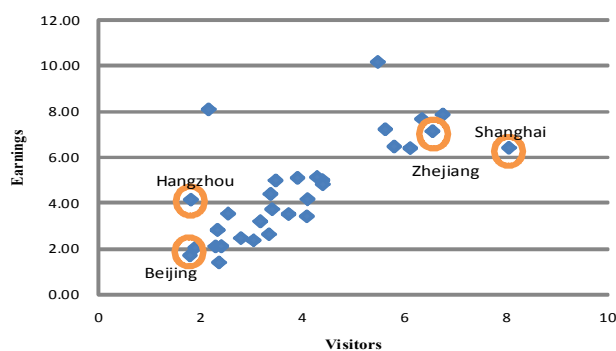
We selected West Lake in Hangzhou as a typical Chinese tourism area because it is one of the cities chosen by the central government in China to concentrate on for tourism development. In 1999, West Lake was ranked among the ten topmost beauty spots and designated as the national model by CNTA. Located in Hangzhou, West Lake covers around 60 square kilometres, including 5.68 square kilometres of water, and is one of the most famous tourist attractions in China. For centuries, West Lake has been well known both for its picturesque landscape and its cultural heritage, which dates back to the medieval dynasties. We also chose West Lake because it is the heart of tourism in Hangzhou and its surrounding areas should be well-preserved. This lake is not large but its environment has been so fragile that its water quality requires continuous monitoring. Many factors contribute to water pollution and lead the lake water to become eutrophic. The natural contributors to this problem include the inherently slow circulation of the lake water and less water influx from the Qiantang Jiang River. As in the case of other lakes in China, farming, manufacturing and tourism are

considered the major causes of water pollution. To cope with this pollution, periodical dredging has been undertaken in West Lake². As the mother lake for Hangzhou, West Lake and its surrounding area may be requisite to the community and people living there. Therefore, it is appropriate to investigate what plans the government has proposed, how the community is involved in the planning, and how well the cooperation between the government and the community, if any, is working.

4.2 Tourism development and plans in Hangzhou

West Lake's landscape and atmosphere have attracted both foreign and domestic visitors. After 1949, Hangzhou first developed as a resort where receptions for international and domestic meetings involving high government officials were held. After 1989, however, the reform and opening policy in China advocated in 1978 penetrated into the east coast areas, and a structural change in the tourism market in these areas occurred. Because West Lake and its surroundings had developed earlier and was a traditional tourism destination in China, prompt action and improvement towards tourism-oriented development were needed for a newer model of regional development in the 1990s. Figure 3 shows figures related to the development of foreign tourism in selected areas in China. The growth rate of the number of overseas tourists and tourism earnings in Hangzhou is less than that of other tourist sites, though this phenomenon may also reflect the age of this tourist site³.

Figure 3 Tourism developments – A comparison (2006/1995)



(Source; National Bureau of Statistics of China (<http://www.stats.gov.cn/>))

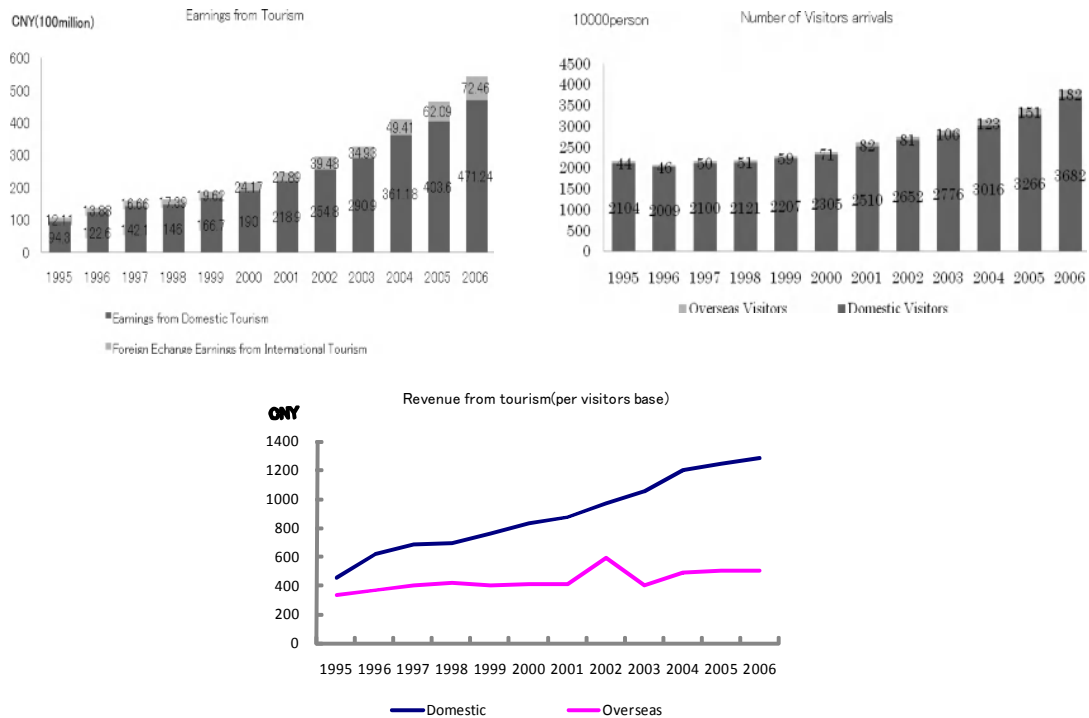
Tourism revenues per overseas visitor in Hangzhou are relatively high compared with other regions, meaning that they tend to pay more for attractions, shopping and accommodation. As a top tourist site in China, Hangzhou is still attractive with an annual influx of more than 38 million visitors who come to see and experience something special. Tourists from abroad also have been

² For example, it is reported that in 1089, West Lake was dredged by Su Shi, the then governor of Hangzhou. At the same time, San Tan Yue was built along with the three symbolic stone towers that indicated the area in which people were prohibited from planting aquatics (e.g. lotus).

³ See Butler (1980, 1997) for the explanation of a logistic growth curve for tourism sites, which shows that they develop fast at first, but then slow.

steadily increasing to 2 million in 2006, and come mainly from the Republic of Korea, Japan and the USA (except for Taiwan and Hong Kong). Domestic tourists are particularly important. They tend to spend more money than overseas tourists; for example, the average amount spent was around ¥1200 per visit in 2006, which was three times the figure in 1995 (See Figure 4).

Figure 4 Tourism developments in Hangzhou



Due to a lack of data concerning tourism growth in Hangzhou, it is hard to determine if it has undergone Butler's type of tourism development; however, it can be found that tourism in Hangzhou seems to be still developing towards a certain level of carrying capacity. With respect to environmental preservation in Hangzhou, we should mention the typology of carrying capacity, since it can be defined from both the community and the tourist ends (See Saveriades, 2000 and Urtasun and Gutierrez, 2006). From the community end, the carrying capacity is a threshold over which the community residents will not endure the negative impact of tourism development. On the other hand, from the tourist end, more restrictions in the carrying capacity would lead to a deterioration of the tourist destination. As we focus on community involvement in tourism development, our attention is mainly on the former because it impacts the community's welfare.

The evolution of tourism development plans in Hangzhou is summarized in Table 1. The first development plan in Hangzhou was established in 1978. Following Deng Xiaoping's theory of development strategy for China, a nationwide goal for tourism development, which designated the

basic principles as well as laws for the tourism sector, was set for the 1990s. An assessment system that used star ratings for hotels and the topmost Chinese tourist cities nominated was implemented, and Hangzhou was chosen as one of top tourist cities in China by CNTA.

Table 1 A brief history of development plans in Hangzhou

	Tourism Development	Environmental Preservation	Community
1953	Urban plan as a scenic city to locate sanatoriums for army, navy and air force.		
1983	Master plan for developing scenic spots. Approved as a selected scenic city		
1998		Hangzhou water protection regulations for West lake	
1999		Hangzhou heritage management provision	
2000	Second exhibition of the West Lake, Hangzhou in China (First was held in 1929) Tourism Management Code in Hangzhou		
2001	Tourism administration of Hangzhou and the board of tourism and trade in Hangzhou. Master Plan for Urban Construction in Hangzhou (-2020)		Doctrine of the community building (Ministry of Civil Affairs)
2002	A report titled 'International tourism development in Hangzhou' by PATA	State Environmental Protection "Ninth Five-Year" Plan and the Long-Term Goals for 2010. Master Plan for West lake Scenic Area (-2020) Hangzhou river protection management Three complex protection operation to 2006; The West Lake comprehensive protection project (including the westward expansion of West Lake), ground project for infrastructure, and reinvigoration of Grand Canal.	Notice on the strengthening of community policy and its construction (Ministry of Public Security and Ministry of Civil Affairs)
2003	Agreement of affiliation for tourism development in the Chang Jiang delta regions, including 15 cities (e.g. Shang Hai, Hangzhou and Nanjing) and Mount Huangshan.	Building and protection project of the west wetland national park. Hangzhou urban dust pollution management	
2004	Master plan for comprehensive tourism development in Hangzhou (-2025) Promotion plan for international tourism development in Hangzhou (-2007) China Leisure Economy International Forum	Development Plan for Environmental City in Hangzhou The westward wetland conservation plan Hangzhou Environmental Protection Management of the service sector	Law of organizing committee for urban SheQu (community) (Ministry of Civil
2005	Open to visitors of the westward wetland of West Lake First International Animation Festival		
2006	Hangzhou Tourism Code Second International Animation Festival (named the city for animation in China)	State Environmental Protection "11th Five-Year" Plan, 'Hangzhou Environmental Protection "11th Five-year "Plan	Development plan of community service in Hangzhou (-2010)
2007	New promotion plan for international tourism development in Hangzhou (-2011)		Notice of national model city community service standards (Ministry of Civil Affairs)

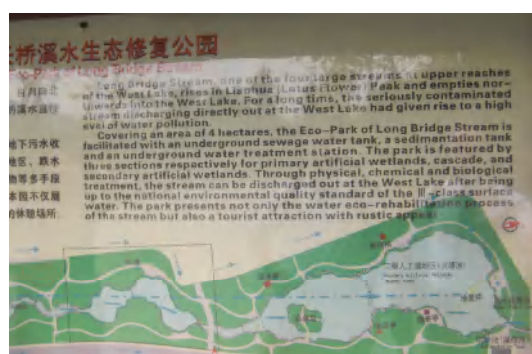
(Source: arranged by authors from various rules and plans by Hangzhou Municipal Government (<http://www.Hangzhou.gov.cn/main/fggz/>))

In 2003, the world development plan for Hangzhou was advocated. Three major targets were included in this five-year plan: first, to develop various tourist sites in Hangzhou; second, to create more space for inbound tourists and third, to aim at becoming a convention city, which leads to an increase in inbound tourists and exchanges among people, products and technology. In alliance with Shang-hi and its neighbours, Hangzhou continues to aim at sustainable growth through tourism development. A master development plan for tourism was designed in 2004 and will continue until 2025. This comprehensive plan stresses on four strategies: 'internationalization', 'being a tourism centre', 'westward development' and 'merging of city, culture and tourism'. The final plan is to

focus on the development of the natural environment of West Lake, including tourism development of the urban as well as suburban areas in Hangzhou.

4.3 Environmental preservation in West Lake

Since 1979, when Deng Xiaoping's development strategy for China was promulgated, China has been experiencing high growth rates. It continues to grow at around 10% annually. While at the beginning of devising strategies, major development plans were limited to the east coast areas, now the growth strategy has turned towards the inland areas in the west-south regions. Development of energy and labour-intensive industries such as heavy industry and export-oriented manufacturing has led to high growth in the Chinese economy. However, this tendency has also caused serious environmental problems, especially in urban areas. Hangzhou is no exception, and protection of the environment especially around West Lake is of a high priority. As mentioned above, the major causes of deteriorating water quality in West Lake include the discharge of contaminated and untreated water as a result of farming, manufacturing and tourism activities, and inflow from rivers whose water quality is poor. The water system of West Lake was improved by various measures, including increasing the incursion of water from the Qiantang Jiang River⁴ and construction of a sewerage system around West Lake. Part of the water drawn from river is poured into artificially constructed wetlands located southward of West Lake and after treatment, the water is drained out to West Lake (See lower images⁵). Moreover, periodical dredging operations were performed in 1952, 1976 and 1999–2003.



As shown in Table 1, the municipal authority in Hangzhou carried out various treatments and environmental preservation plans. In 2002, under the Master Plan for the West Lake Scenic Area (until 2020), three complex protection operations began—the West Lake Comprehensive Protection Project (including the westward expansion of West Lake), an infrastructure ground project and

⁴ Six points of intake from the river have been operating since 1986. The rate of circulation of water in West Lake is now estimated to be once per month.

⁵ The images depict the Eco-Park of Long Bridge Stream in Hangzhou.

reinvigoration of the Grand Canal. These projects are currently underway. At the same time, the Hangzhou Environmental Protection “11th Five-Year” Plan was advocated in 2006 to accelerate industrialization, urbanization, growing educational potential and internationalization. In the face of new changes, this plan must be linked to environmental protection to protect the rivers, lakes and mountains of Hangzhou; make good use of its natural resources and create a people-oriented ecological city. This plan also stressed that an environmental protection strategy will lead Hangzhou to become an environmentally friendly as well as a historical and cultural tourist site. A strong support for ecological construction, ecological protection and pollution prevention is expected to provide a good foundation for sustainable economic and social development in Hangzhou.

Accordingly, these protection plans for the overall environment in Hangzhou should be centred on environmental preservation of West Lake and its surroundings. As far as the urban construction plan is concerned, the condition of the infrastructure and greens has steadily improved. The area to the east of the lake is intended to be used for business, that to the south will be an upscale street, that to the north is for significant historical sites and that to the west is a new location that will include the widening West Lake in order to attract tourists. However, some problems persist, basically because of urban reconstruction and tourism development.

First, there exists the problem of water quality, though an improvement in water quality has been noted over the years and some of the improvement projects seem effective. However, the achievement rate of environmental standard for drinking water quality is 89.7%, while for the Qiantang Jiang basin it is only 43.5% and for the Hangzhou Canal it is 0%. West Lake’s water quality, though improving, is still in the V-class, the worst situation (See Table 2 for environmental quality standards for surface water and Table 3 for selected and monitored urban-area lakes⁶). In spite of the various efforts mentioned above, an immediate improvement in the ambient water quality of West Lake and its surroundings is required.

Second, the increase in tourism and rapid urban redevelopment has caused various urban environmental problems such as overcrowding, congestion, air pollution and traffic accidents. Table 4 shows selected data related to the economic, environmental and social aspects of development in Hangzhou. The figures are indicated in the Development Plan for an Environmental City in Hangzhou in 2002. It should be noted that the government has much to do to achieve its long-term goals, especially with regard to economic and environmental efficiency, pollution control and environmental preservation. On the other hand, cooperative action between the government and the community is needed to tackle such issues and attain these goals. An increase in population is mainly caused by influx from other regions, leading to a mixture of local people and people from

⁶ It is easy to see that the water quality in selected urban area lakes except for Kunming Lake is below V. In general, the water quality continues to be poor everywhere in China. There is little difference between the Chinese and Japanese standards as shown in Table 2. As far as total P and N are concerned, the difference is less than 0.1 and 1.0 respectively for type V in Japan.

outside. Hence, there is no doubt that the community structure in Hangzhou has been changing steadily with the fluidity of population. Accordingly, this brings about difficulties in the traditional system of managing the community.

Table 2 Environmental quality standards of dams and lakes in China

	Standards				
	Type I	Type II	Type III	Type IV	Type V
Total P(mg/l)	0.002	0.01	0.025	0.06	0.12
Total N(mg/l)	0.04	0.15	0.3	0.7	1.2
Chlorophyll a (mg/l)	0.001	0.004	0.01	0.03	0.065
Transparency(m)	15	4	2.5	1.5	0.5

Table 3 Lakes in urban areas (monitored sites)

Dam/Lake	Nutritional Status Index	Nutrition Status	Water Quality		Major pollution indicators
			2006	2005	
Kunming Lake	44	medium - grade	III	V	—
East Lake	65	medium - grade	below V	below V	Total P
West Lake	56	low-grade	below V	below V	Total N
Xuanwu Lake	56	low-grade	below V	V	Total N
Daemyeong Lake	58	low-grade	below V	below V	Total N

(Source: Environmental quality standard for surface water in 2001 (http://www.sepa.gov.cn/japan/env_info/3_3.htm) and Public Report of Environmental Statistics in China, 2006 (http://www.sepa.gov.cn/japan/env_info/3_0.htm))

Table 4 Summary of selected index of policy target in Hangzhou

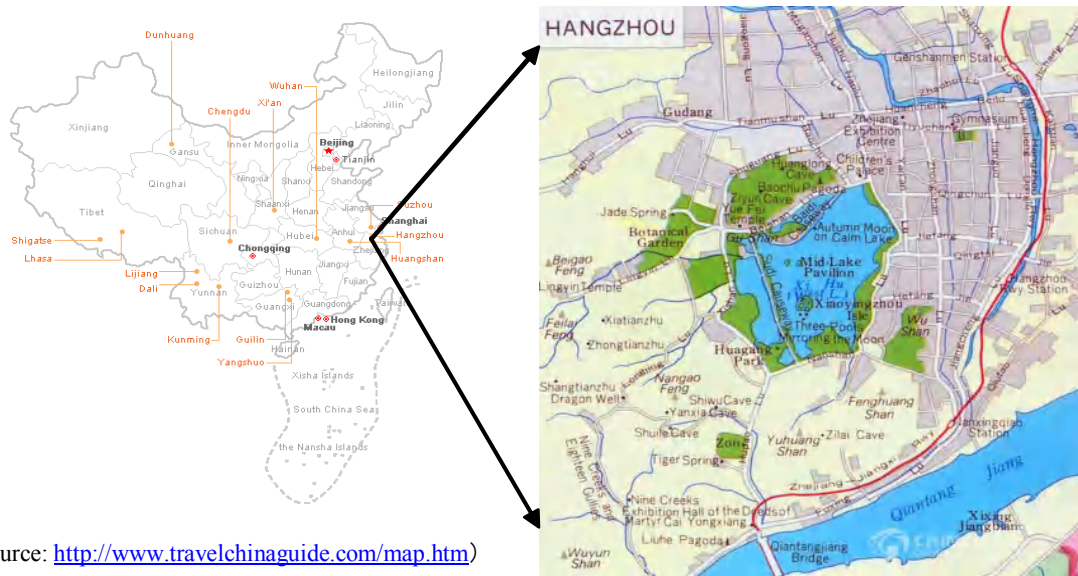
Index	unit	criterion	city		urban area		
			2005	2020	2005	2020	
Economy	per capita GDP	¥/person	≥ 33000	36500	> 120000	48000	> 200000
	farmer's per capita income	¥/person	≥ 11000	6420	> 14000	7850	> 18000
	per capita DI	¥/person	≥ 24000	14500	> 35000	15000	> 35000
	energy efficiency	t/¥ 10000	≤ 1.4	0.8	< 0.6	0.7	< 0.6
	water efficiency	m ³ /¥ 10000	≤ 150	95	< 88	110	< 100
Environment	share of woodland (mountain area)	%	≥ 70	92	> 94	30	> 30
	share of environmental protection	%	≥ 17	21	> 25	15	> 17
	water quality	%	100,IV-	>95,-V	100,IV-	>95,-V	100,IV-
	urban air quality (days over 2-class air standards)	days	≥ 330	near 300	> 330	near 300	> 330
	environmental efficiency (upper SO ₂ lower COD)	1000l/	< 5.0	5	< 4.0	4.8	< 4.5
	life drainage treatment rate	%	≥ 70	55	> 70	60	> 75
	recycle rate of industrial water	%	≥ 50	65	> 70	70	> 75
	achievement rate of environment standards in tourist district	%	100	95	100	95	100
	share of investment for environmental preservation	%	≥ 2.5	2.5	> 3.5	2.5	> 4.0
Society	penetration rate of environmental education	%	> 85	75	> 85	88	> 95
	public environmental satisfaction	%	> 90	85	> 95	85	> 95

(Source: Development Plan for Environmental City in Hangzhou, 2002)

4.4 Role of community (SheQu) and tourism development

The governance structure in Zhejiang Province is as follows. There are 11 cities in Zhejiang

Province, and the capital is Hangzhou (population: about 7.86 million in 2007). The capital has 8 districts, 3 prefecture-level cities and 2 prefectures. West Lake District (about 0.71 million) is 1 of the 8 districts under Hangzhou municipality. In West Lake (Xihu) District, there are 10 street bureaus and 2 towns. The community that we surveyed in this paper is Jing Si SheQu (population: about 9290) located in West Lake Street Bureau, which has 121 SheQu and 64 villages.



(Source: <http://www.travelchinaguide.com/map.htm>)

Here, we focus our attention on the following: first, how the rapid increase in population and urbanization has influenced the community structure in Hangzhou, and second, the extent to which residents in the community, especially in the vicinity of West Lake, are committed to various authorized plans and projects for environmental conservation and tourism development. As mentioned above, the governance system in China consists of country or province, city and others. A district or community in a city (or 'SheQu' in Chinese) is organized by a basic organization called a 'resident's commission'. In a huge urban area, centralized decision making is difficult. Projects planned by the central or municipal government can be governed effectively by small units of management like the SheQu. Apart from its administrative structure, the SheQu plays a very important role in ruling a socialist society and its people. After 1978, when the new constitution was established, an organization system similar to resident's commission or street bureaus was constructed. In the 1990s, they were systematically transformed into the SheQu. It is stated in the Doctrine of Community Building, 2001, that the major aim of SheQu construction is to raise the welfare of the community by developing community services and utilizing local human resources (see Table 1). Under government restriction, the SheQu has certain powers to develop SheQu-related projects and organize plans. Community services in the SheQu include economic, political,

integrated and environmental activities⁷. Although the role of the SheQu as a governance system may be reinforced in order to govern people and society effectively, it may be also true that the SheQu is now in a critical position to tackle problems of overpopulation, deterioration of employment and security, and environmental preservation. As described in the model, cooperation between the government and the community is necessary for diminishing the gap between their welfare targets. Accordingly, spontaneous and voluntary expression of community opinion is necessary, and coordination between the government and the community must be considered an effective mechanism. Our next task is to observe and analyze community involvement and problems of coordination between the government and the community in Hangzhou.

5. An Empirical Research on Ecotourism Development in Hangzhou

5.1 Framework of empirical research

To make our analysis efficient, we selected a typical community site named Jing Si SheQu, located to the south of and adjacent to West Lake. It had a population of 9,290, with 1,486 families living in 7 square kilometres. Almost 4,200 people originally came from outside the community. The resident's commission of Jing Si SheQu is composed of several officials specified for each section—general, party, social security, life assistance, birth plan, sanitary control, environmental preservation and so on. The head of the office is a secretary of the party committee and there are 8 staff members in total. Incidentally, 124 members of the party reside in Jing Si SheQu. Although waste management, street cleaning and tree planting are entrusted to a management company, some jobs related to sanitation control and environmental preservation are exclusively supervised by the commission. An estimated 200 people in Jing Si SheQu belong to a volunteer service centre and are involved in caring for the elderly, street cleaning and bicycle maintenance. There are many attractions for tourists in Jing Si SheQu, but tourism development has been little developed as a major community policy. However, the development of tourism in this region is affecting the daily lives of residents in the community.

To make an effective empirical study, we held hearings of the residents' committee of Jing Si SheQu and conducted a questionnaire survey of the residents. The following points are expected to be revealed through the survey: what do residents think about the development plans for Hangzhou, how they evaluate them and how measures to ensure that their opinions can be reflected in the planning are adopted in the administrative system. The research was conducted during 1–19 September 2008. We interviewed 104 residents for the study. The questionnaire was composed of

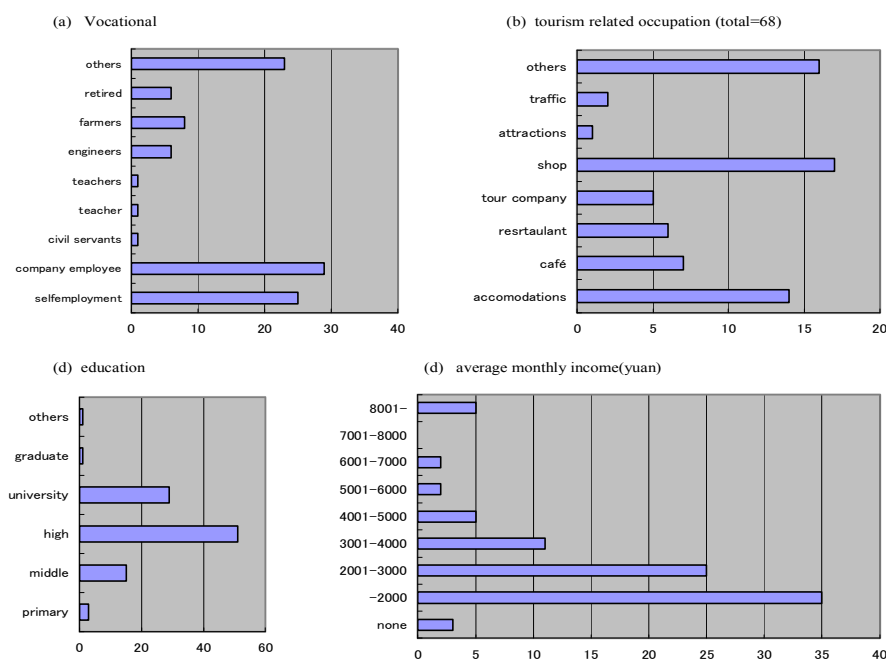
⁷ The scope of community services and organization frameworks of SheQu was established in 2004 (See Table 1). Services by the SheQu mainly consist of the welfare of the elderly, minimum life security, job placement and population control. Although environmental management is also included, the commission's aims are primarily centred on welfare and employment.

three parts. The first part asks questions about the general stance of the residents regarding development in China and Hangzhou from the environmental and economic perspectives. The second constitutes the main part of the survey, which involves the residents' evaluation of specific aspects of environmental and tourism development and planning. This part also includes questions that assess the nature of community involvement in regional policy measures and plans. The third part is related to the characteristics of the sample structure, including age, sex, years of residence and income (See Figure 5 below). Moreover, many individual opinions were added to the responses by the respondents in their own handwriting.

Among the 104 samples, the number of males was 48, the average age was 34.8, the average number of years as a resident was 20.5 and family size was 3.68. A large number of people in the sample (65%) was engaged in tourism-related occupations like accommodation, shops and restaurants. This may be because the area around Jing Si SheQu is near West Lake. In this sense, the residents in Jing Si SheQu should have a strong interest in tourism development and related regional plans. Almost 79% of people had a high school or university level of education and the estimated annual income was around ¥30,000, almost double the per capita disposable income in Hangzhou (see Table 4). Therefore, it may be assumed that the residents in Jing Si SheQu are relatively well educated and have a high income.

Except for some questions, statements were elicited through the use of a five- (or four-) point Likert-type scale, with 1 being the lowest (very strongly disagree) and 5 the highest (very strongly agree).

Figure 5 Structure of samples (persons)



5.2 Overall results

The overall results of the research are shown in Table 5. Before analysing statistically the empirical data on community involvement, we shall make some heuristic observations.

First we shall focus on what residents think about and how they behave with regard to environmental improvement in Hangzhou (Question Nos. 1–9 and 12). In general, their environmental consciousness seems to be high. It should be noted that they think the environmental situation in Hangzhou is much better than in the rest of China⁸. The scores on preservation of the natural and cultural heritage, water quality and environment around West Lake were generally high. These scores express that the government's environmental conservation activities of West Lake are highly valued by residents and that residents do something good for preserving environment of West Lake. It seems natural that a community near West Lake should care about environmental protection, since more than half of the sample population is engaged in tourism and living in a scenic area of West Lake⁹. Second, the questionnaire asked about the residents' stances on tourism development (Question Nos. 10–12). The places that the residents recommend are sites of 'cultural and historical heritage', 'scenic landscape', and 'shopping centre'. They think that the environmental issues in Hangzhou are related to economic development, including industry, agriculture and tourism, but believe that community activities should have less influence on the environment in Hangzhou. Moreover, 48.1% residents think environmental protection should be given a priority over tourism development, while 29.8% want to prioritize tourism development. As far as the benefit from tourism development is concerned, 67% residents think tourism development is very beneficial for the society and 61% think it is beneficial for the individual. Third is with regard to community involvement towards development and its planning (Question Nos. 12–19). As mentioned above, many residents approve the development and environmental preservation plans by the government. This means that the plans and their enforcement in China, if well-designed and well-executed, can result in coordination between national and local targets so as to optimize community welfare. Although residents think the SheQu should play an important role in tourism development and environmental preservation, the levels of commitment and cooperation in the SheQu are still low. Under some instructions by the SheQu or government, around 25% residents take part in voluntary activities such as 'cleaning up waste', 'cleaning up roads' and 'tourism information' in order to

⁸ In the "11th five-year-plan" of 2006, the central government of China expressed an urgent need for environmental policies to tackle various pollution problems and natural disasters. Local people are probably well acquainted with these issues and can judge the current environmental situation in Hangzhou in comparison to various other regions in China. The scores of No. 2 and No. 3 show a statistically significant difference of less than 1% ($t = 6.74$).

⁹ 91.4% of residents give 4 or 5 points for No. 9. There is little difference between the scores of residents who are engaged in the tourism-related sector and residents who are not. They are close to each other but only show a statistically significant difference in Nos. 11-1, 11-4, 12-3, 18-1 and 18-2. More residents engaged in the tourism sector tend to think that tourism development and community activity affect the environment in Hangzhou. Every resident understands the severity of safety and traffic in Hangzhou, and especially, those who are engaged in the tourism sector take the issue of traffic congestion more seriously. Surprisingly, there is no difference in the awareness of 'ecotourism' between the two samples.

improve the hospitality¹⁰.

Table 5 Questions and answers

No.	Question	Score	No.	Question	Score				
1	How much do you care about the environment ?	4.31	13	For better hospitality to visitors, have you ever done each of the following activities under instruction of SheQu or government ?	1 cleanup of the road	26.92%			
2	What do you think about the environmental conditions in China ?	3.01			2 cleanup of waste	28.85%			
3	What do you think about the current state of environment in Hangzhou ?	3.84			3 traffic control	18.27%			
4	Do you agree that government cares about the environmental situation in West Lake ?	4.03			4 tourism information	23.08%			
5	What do you think about how future development of West Lake should be ?	1 environmental protection oriented	17.31%	5 urban governance	6.73%				
		2 tourism development oriented	9.62%	6 environmental volunteer	6.73%				
		3 both	73.08%	7 others	29.81%				
		4 other	0.00%	8 none	9.62%				
6	Are you familiar with 'ecotourism'?	3.18	14	For better hospitality to visitors, have you ever done each of the following activities voluntarily ?	1 cleanup of the road	10.58%			
7	Do you do any actions to tackle with 'global warming' issue ?	3.84			2 cleanup of waste	19.23%			
8	You live in the West Lake scenic spots. Do you understand the meaning of scenic spots here ?	3.54			3 traffic control	11.54%			
9	Do you care about environmental protection in daily life in the West Lake scenic spots ?	4.36			4 tourism information	29.81%			
10	What do you recommend to visitors to Hangzhou ?	1 landscape	75.00%	5 urban governance	6.73%				
		2 foods	18.27%	6 environmental volunteer	9.62%				
		3 souvenir	29.81%	7 others	39.42%				
		4 cultural and historical heritage	89.42%	8 none	8.65%				
		5 boating and walking	27.88%	15	How frequent do you participate in SheQu activity ?	1.875			
		6 shopping center	49.04%		1 Drum corps	0.96%			
		7 attractions	8.65%		2 Relay race	2.88%			
11	What do you think about the relation between environmental protection and tourism development ?	1 tourism development in Hangzhou affects the environment in Hangzhou	3.57	16	Have you ever participated in the following activities managed by SheQu ?	3 Tai Chi	0.96%		
		2 industry and agriculture take impact on the environment in Hangzhou	3.55			4 mountain climbing competition	16.35%		
		3 government policy affects the environment in Hangzhou	3.75			5 planting trees	16.35%		
		4 community activities affect the environment in Hangzhou	3.14			6 athletic game	11.54%		
		5 In general tourism development should be given priority to environmental protection	2.80			7 citizen's school	1.92%		
12	Question of various situations in Hangzhou	1 Do you think economy is booming ?	4.28	17	Do you have usually any concern for the environmental and tourism plan or policy of West Lake ?	8 School for elderly	1.92%		
		2 Do you think employment is increasing ?	3.48			9 celebration for golden week	5.77%		
		3 Do you think traffic congestion is mitigated ?	2.32			# celebration for women's day	9.62%		
		4 Do you think asset price is increasing ?	4.29			# none	57.69%		
		5 Do you think the crime is reducing ?	2.73			18	Have you ever made comments or suggestions on the environmental and tourism plan or policy of West Lake ?	1 tourims aspects	2.97
		6 Do you think natural and cultural heritages are well-preserved?	4.01					2 environmental aspects	3.16
		7 Do you think water quality of West Lake is improving ?	3.63			19	Have you ever received information or education about environment or tourism through SheQu ?	19.23%	
		8 Do you think environment around West Lake is improving ?	4.21					9.62%	
		9 Do you think visitors become eco-friendly ?	3.56					50.00%	
		10 Do you think there are over all positive effects through tourism?	3.70						
		11 Do you think there is positive effect for you through tourism?	3.49						
		12 Do you think local government should promote tourism development plans ?	4.01						
		13 Do you think identity of residents is growing ?	3.52						
		14 Do you think residents become more cooperative ?	3.38						
		15 Do you think life standards is improving ?	3.90						
		16 Do you think over all environment for daily life is	3.94						
		17 Do you think as a community SheQu should do action for tourism development ?	3.88						
		18 Do you think as a community SheQu should do action for environmental preservation ?	4.15						

¹⁰ In case of no indication by organization, around 10 to 20% residents take part in various activities. However, in case of some indications, participation rate is clearly lower. Incidentally, in Japan, the participation rate in volunteer activity is around 25% (See Survey of structures of social living (1996), Ministry of Internal Affairs and Communications). In general, the participation rate is higher in the USA and UK.

While the residents tend to think that the SheQu should engage in positive activities with respect to tourism development and environmental preservation, their concern with policy and community building seems to be relatively high. To compare their concerns on policy and planning, about 20% residents answered that they have tried to make comments or suggestions on plans and policies of West Lake. Accordingly, it may be said that people in the community participate actively to resolve local issues. This is partly because the resident's commission in the SheQu operates under the leadership of the Communist Party, and in fact, many members of the party play an active role on all fronts (124 members of the party live in Jing Si SheQu).

As far as a roadmap of regional development in Hangzhou is concerned, the triple bottom lines for sustainable development, namely sound development of tourism, a well-preserved environment and steady growth of per capita income has been attained under the strong leadership of the central and local governments. The SheQu in Hangzhou has also played an important role in sustainability. Although it is still on its way to meeting its long-term target, it seems to be steadily progressing along the road to success. However, it should be noted that people are still worried about excessive tourism development, an ill-preserved environment and the weakening of community building. For example, 10% residents do not think the natural and cultural heritage is well-preserved and 16% do not agree that there has been improvement in the water quality of West Lake. Moreover, almost 25% residents tend to deny that there has been strengthening of identity development and cooperation in the community. They believe that too much reliance on the government will lead people to lose sight of the essence of the community.

5.3 How much are people in the community committed to government?

Here we shall focus on community involvement. Although the samples are limited, we can clarify the residents' responses to plans and actions undertaken by the Hangzhou government. To estimate the residents' behaviour with regard to petitions or commitments to plans and actions undertaken by the Hangzhou government, we shall employ a logit model analysis.

In the logit model employed here, the dependent variable should be a discrete variable that represents a choice; for example, if a resident in the community makes a commitment to government or not. Accordingly, we can inquire into various factors that determine the residents' behaviour with regard to community involvement. Let $Y_i = 1$ when people have actually proposed opinions or petitions on environment or tourism development plans or policies in West Lake, and let $Y_i = 0$ when people have not. In the logit model, the probability of choice for each category is given as

$$\text{Prov}(Y_i = 0 | x_i) = \frac{1}{1 + \sum \exp(b_k x_i)}, \quad \text{Prov}(Y_i = 1 | x_i) = \frac{\exp(b_j x_i)}{1 + \sum \exp(b_k x_i)},$$

where b_j is a vector of estimated parameters and x_i is a vector of explanatory variables.

As for the dependent variables, we adopt two variables that indicate how residents have

responded to plans and actions undertaken by the Hangzhou government. One is the claims rate of people who have actually proposed petitions or commitments to development plans or actions for West Lake implemented by the Hangzhou government (see Question No. 18 in which the answers are either Yes or No). The other variable is the participation rate of people who have actually taken part in some activity of the SheQu (see Question No. 13 or 14, where the answers are either Yes or No)¹¹. Moreover, we adopt explanatory variables that seem to be characteristic of concerns, evaluation, dependence and confidence with respect to the plans and policies implemented by the government or resident's commission in a SheQu as the community authority. The estimated outcome is shown in Table 6 for the claims rate and in Table 7 for the participation rate. In each table, a complete model with all variables is in the first column and the outcome of diminished variables is in the second column.

Table 6 Logit estimation (dependent variable = claims rate (Q18))

Category	No.	Full model		Model selected	
		parameter	p-value	parameter	p-value
knowledge & concerns	Q1	0.589	0.760		
	Q8	-3.443	0.122	-1.696	0.047
Evaluation of the situation	Q2	1.455	0.362		
	Q3	9.16	0.145	5.552	0.036
	Q11-1	-2.213	0.169	-1.436	0.039
	Q11-2	2.204	0.185	1.642	0.055
	Q12-3	0.34	0.655		
	Q12-7	-1.883	0.077	-1.026	0.048
	Q12-13	1.936	0.255		
Evaluation of the governmental policy	Q4	-9.532	0.097	-5.273	0.035
	Q11-3	-2.593	0.143	-1.222	0.092
	Q11-4	0.286	0.744		
	Q12-18	-1.094	0.450		
Behavior	Q7	1.624	0.578		
	Q9	3.492	0.103	1.739	0.078
Participation	Q14	-0.631	0.833		
	Q15	3.512	0.161	2.142	0.071
Individual attribute	Q20 sex	-8.413	0.161	-2.912	0.089
	Q21 age	-0.514	0.154	-0.186	0.089
	Q22 years of residence	0.475	0.110	0.211	0.015
	Q23 household size	-2.514	0.185	-1.171	0.059
	Q24 education	-0.338	0.870		
	Q25 engaged in tourism	1.322	0.750		
	Q26 earnings	1.196	0.216	0.686	0.027
constant		2.439	0.843	2.358	0.634
		kai-square	0.785		1.33
Hosmer & Lemeshow test		degree of freedom	8		8
		significance probability	0.999		0.995
		-2 Log likelihood	29.260		34.617
		Cox & Snell R ²	0.452		0.414
		Nagelkerke R ²	0.727		0.665

As far as Q18 in Table 5 is concerned, it is clear that people who petition or commit directly to the government are conscious of social and political issues. Accordingly, if people regard the environmental and economic situation in Hangzhou as good and think that the government functions

¹¹ We have also examined No. 15 as a dependent variable, indicating the frequency of participation in community activities. However, we could not reach a statistical outcome because a problem was reported by the SPSS software.

well, they take little action against the government. This may be a reason why parameters with respect to Q11-1, Q12-7, Q4 and Q11-3 are significantly negative. It is hard to interpret a significant correlation with Q3. Even if people approve of environmental conditions in Hangzhou (see Q3), those who think that the environment is negatively affected by industry and agriculture in Hangzhou tend to have a higher claims rate (see Q11-2). Moreover, people who normally work on behalf of the environment in West Lake may be so eco-conscious that they tend to be sensitive to the government's behaviour (see Q9). As for individual attributes, the points that should be noted are as follows: first, male rather than female and younger rather than older people tend to have a larger claims rate; second, people who have lived longer in SheQu tend to claim more; third, people who are relatively wealthy in the community also tend to claim more with respect to plans or policies in West Lake and finally, there is no significant correlation with respect to occupations.

Unlike Table 6 for Q18, Table 7 for Q13 or Q14 shows the day-to-day activities of people in the community.

Table 7 Logit estimation (dependent variable = participation rate (Q13, Q14))

Category	No.	Q14 (voluntary)				Q13 (instructed)			
		Full model		Model selected		Full model		Model selected	
		parameter	p-value	parameter	p-value	parameter	p-value	parameter	p-value
knowledge & concerns	Q1	1.546	0.206	1.220	0.137	0.372	0.725		
	Q8	-0.647	0.221	-0.505	0.171	-1.562	0.018	-0.599	0.096
Evaluation of the situation	Q2	0.478	0.438			0.472	0.435		
	Q3	-1.623	0.112	-1.302	0.021	-2.210	0.026	-1.847	0.003
	Q11-1	1.747	0.003	1.600	0.000	1.444	0.004	1.139	0.002
	Q11-2	0.039	0.946			-1.784	0.010	-1.218	0.007
	Q12-3	0.194	0.646	-1.257	0.010	0.516	0.221	0.544	0.067
	Q12-7	-0.546	0.315			-0.577	0.197		
	Q12-13	0.315	0.540			1.172	0.038	0.736	0.049
Evaluation of the governmental policy	Q4	1.089	0.212	0.718	0.219	-0.004	0.996		
	Q11-3	-1.449	0.015	-0.947	0.011	-0.385	0.355		
	Q11-4	0.383	0.434			-0.071	0.866		
	Q12-18	-0.150	0.842			-0.419	0.418		
Behavior	Q7	-0.498	0.537			1.384	0.067	1.545	0.009
	Q9	-0.029	0.971			0.027	0.973		
Individual attribute	Q20 sex	-4.463	0.001	-4.472	0.000	-2.354	0.039	-2.000	0.019
	Q21 age	0.017	0.806			-0.042	0.519		
	Q22 years of residence	0.080	0.075	0.074	0.006	0.098	0.018	0.073	0.003
	Q23 household size	-1.338	0.039			-0.344	0.480		
	Q24 education	0.230	0.773			-0.388	0.624		
	Q25 engaged in tourism	1.982	0.103	2.180	0.031	1.707	0.121	1.407	0.108
Q26 earnings	0.084	0.798			-0.188	0.576			
constant		-2.156	0.699	1.373	0.722	3.536	0.516	-0.526	0.853
Hosmer & Lemeshow test	kai-square		15.026		6.533		7.573		7.132
	degree of freedom		8		8		8		8
	significance probability		0.059		0.588		0.476		0.522
-2 Log likelihood			51.912		57.637		55.680		67.182
Cox & Snell R ²			0.505		0.467		0.436		0.345
Nagelkerke R ²			0.676		0.625		0.600		0.475

First, we shall compare the outcomes of Q18 with those of Q13 or Q14. As for Q8, Q20 and Q22, the coefficients have the same signs. However, Q3 and Q11-1 have opposite signs. This means that people who do not appreciate the environmental situation in Hangzhou and/or people who think

tourism development affects the environment tend to participate in community activities. It was observed that people tend to join the community activities when they think the environmental situation in Hangzhou to be well-preserved. As far as the policy evaluation is concerned, people who believe that policies could affect the environmental situation in Hangzhou tend not to participate in community activities (Q11-3). Moreover, the fact that people engaged in the tourism sector tend to be positive with regard to community activities is notable. This is because they have sufficient incentive to join various community activities, both to provide hospitality to visitors and to support tourism development (Q25). Second, we shall look at the difference in outcomes between Q13 and Q14. As mentioned before, more people tend to participate in community activities directed by the community's committee (Q13) as compared with those that are self-motivated (Q14).

5.4 Situation of community involvement in China

Two points in Table 7 are notable. First, no coefficient related to people's evaluation of policy is statistically significant, except for Q11-3 with respect to Q14. Second, people who participate more actively in community activities tend to believe that their activities will promote a sense of community identity (Q12-13). However, this is only true in cases where the government or local committee directs various community activities. As far as volunteer activity is concerned, there is no relationship between identity development and people's voluntary intention with regard to community activities. Accordingly, it can be assumed that people in the SheQu participate in community activities irrespective of their assessment of plans and policies undertaken by the government and that they feel that activities implemented by the government will lead to the development of communal identity. Hence, it is natural to find these two results concerning community building and its development in China.

As mentioned in section 3, to make ecotourism development sustainable, it is necessary for the government to involve the community properly in the management and evaluation of policies. The rights and incentives of the people in the community should be preserved adequately, not only for the sake of accurate estimation of social (community) welfare but also for accomplishment of overall policy targets. The development plan for an environmental city in Hangzhou in 2004 is a good example of this. This long-term plan involves cooperative and joint works on the part of the Hangzhou government and the local community. In this plan, it is stressed that a system of enforced participation by the residents and adequate social monitoring is indispensable for the exchange of information between government and the community. Accordingly, it seems to be a basic policy stance in China that government advances community involvement as a strategic measure for maintaining sustainable socio-economic development. In this regard, we recall the outcomes related to Q11-3 and Q12-13. Together these lead to the finding that community identity can be developed through government-instructed activities, but that community activities have no relation to people's

assessment of government plans and policies. It is also notable that regarding community activities, the frequency of participation was very low (Q15) and the voluntary nature was not absolute (Q13 compared with Q14). Considering all these points, the following can be concluded. The government in Hangzhou has promoted community involvement in a way that its development plans and policies have been designed to be consistent with what people in the community have claimed. However, it remains debatable if the SheQu system and government-instructed activities could lead to better management of local resources, and if government could share information about environmental and socio-economic outcomes with people in the community.

6. Final Remarks

In this paper, we studied community involvement and its structure in China by focusing on environmental and tourism development plans and policies around West Lake in Hangzhou. From a theoretical perspective, it has been shown that involving the community is indispensable for the government in maintaining sustainable tourism development. By obtaining precise information about what people in the community care about, the government can make its policy targets consistent with the community's welfare. In this regard, a sufficient degree of freedom to react to the plans and policies proposed by the government should be assured to the people in the community. Accordingly, ecotourism development in the region should entail cooperative actions by government with the community. Using a questionnaire survey of residents in a small community in Hangzhou (Jing Si SheQu near West Lake), cooperative behaviour in the community related to tourism and environmental development was investigated.

The major findings of the paper are as follows. Tourism in Hangzhou has been developing rapidly and the environment around West Lake, a major destination in Hangzhou, has been well preserved compared to other regions in China. In this sense, the government has apparently advanced a scheme of ecotourism development in Hangzhou, focusing on a well-preserved environment, adequate marketing of tourism and maximized local welfare. Moreover, the Hangzhou government has advocated the need for community involvement to promote its plans and policies. The promotion of community involvement by the government will lead to well-organized cooperation and participation in community activities for better circumstances of tourism development in the region. Our findings, however, indicate that community involvement by the government is not sufficient to fill the information gap between the government and the community. In addition to the bottom-up reactions by people in the community to plans and policies, there should exist government procedures that inspire people in the community to react more to plans and policies. It remains debatable if the SheQu system and government-directed activities can lead to better management of local resources and if government can share adequate information about environmental and socio-economic outcomes with people in the community.

Last but not the least, from a theoretical standpoint, it can be easily proven that community involvement should be dependent on the various activities of people in the community, including participation in activities related to tourism development and reactions against government-oriented plans and policies. However, from an empirical viewpoint, we cannot make robust estimates of the effects of the relationship between community involvement and the behaviour of people in the community. Further research is warranted to accomplish such objectives.

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