The Sustainable Tourism Observatory of Xidi, China

Annual Progress Report for 2024

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MCSTO in China

UN Tourism INSTO International Network of Sustainable Tourism Observatories

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Foreword

Since 2006, Sun Yat-sen University has established a strong collaborative relationship with the United Nations World Tourism Organization (UNWTO), working together to apply the sustainable tourism destination indicators proposed by the UNWTO in practical operations, scientifically monitoring and improving tourism destinations. On September 28, 2010, the UNWTO and Sun Yat-sen University signed a cooperation agreement to establish the "UNWTO Monitoring Center for Sustainable Tourism Observatories" (UN Tourism MCSTO), which is responsible for managing and monitoring sustainable tourism observatories in China and the broader Asia-Pacific region. Xidi, as a typical ancient village in southern Anhui, was included as one of the sustainable tourism observatories, alongside other locations such as Yangshuo in Guangxi, Huangshan in Anhui, Zhangjiajie in Hunan, Chengdu in Sichuan, Luoyang in Henan, Xishuangbanna in Yunnan, and Changshu in Jiangsu. The monitoring center began setting up an observatory in the ancient villages of Xidi and Hongcun in Yi County, Anhui, in 2012, conducting annual tourism monitoring activities.

Executive Summary

The observation was conducted through various methods such as surveys, field observations, and interviews to collect data and monitor key issues in Xidi tourism, including 11 critical areas, commercialization, and carbon emissions.

The report outlines Xidi's performance across these 11 mandate areas. Community residents are generally satisfied with the overall development of tourism and highly recognize the positive impacts tourism has brought to the economy, society, culture, and environment. They are also proactive in offering suggestions for local tourism development. Xidi tourism shows significant seasonality, with notable fluctuations in the total number of visitors each month.

The main types of water usage—residential, tourism-related, and agricultural irrigation—are effectively supported, with Houbi Stream playing an important role in the agricultural irrigation system in Xidi Village. Wastewater management measures have reasonably distinguished between domestic wastewater and special wastewater, and flexible management approaches have been employed to ensure effective treatment of wastewater within the scenic area. The treatment of solid waste is well managed, improving the environment of the scenic area, and future efforts should focus on the centralized disposal of special waste, such as kitchen waste and construction debris.

The governance capacity of the Xidi Scenic Area has steadily improved, with residents expressing satisfaction. However, there are still some suggestions and concerns regarding tourism development. The air quality in the scenic area is excellent, but there is a lack of awareness regarding climate action. The number of shops in the scenic area has increased, with a clear trend of growth in chain brands and stores with modern designs. Going forward, more attention should be given to the impact of these changes on the image of the scenic area.

Xi Di in Brief

Xidi Village is located in the southern part of Anhui Province, near Huangshan City, approximately 40 kilometers from the Huangshan Scenic Area. The village is oriented along a northeast-southwest axis, with residential houses distributed along a main street and two streams that serve as the primary water channels of the village. The main street, along with the network of alleys, forms the road system of Xidi.

Xidi Village preserves 124 ancient residences from the Ming and Qing dynasties, as well as 3 ancestral halls, all of which are protected as key cultural heritage sites in Anhui Province. In November 2000, Xidi, along with Hongcun, was listed as a UNESCO World Heritage Site as a representative of the ancient villages in southern Anhui. In 2011, Xidi Village was officially granted the title of "National 5A Tourist Scenic Area" by the National Tourism Administration. Additionally, Xidi has earned titles such as "World's Best Tourism Village," "National Key Cultural Heritage Site," "Chinese Historic and Cultural Village," and "Top 10 Most Charming Towns in China."

Tourism development in Xidi began in 1986, and from 1989, the village started distributing tourism income dividends to local residents. Over nearly four decades, villagers have actively participated in tourism development, gaining more employment opportunities and economic income. The past development achievements and the recognition of titles such as World Heritage status and the "World's Best Tourism Village" not only serve as validation of Xidi's tourism development but also place higher demands on its future growth, particularly in terms of quality and sustainability.

While it is undeniable that the economic improvements, infrastructure development, and environmental management achieved in the past have directly contributed to the goals of sustainable development, Xidi's future in sustainable tourism still requires regular monitoring and continued effort to maintain and enhance these achievements.

Methodologies and Issue Areas

The monitoring process was divided into three stages:

Preparation Stage:

A monitoring team for Xidi was formed, consisting of 11 faculty and students from the Tourism Development and Research Center of Sun Yat-sen University. Special training was organized, covering monitoring methods, questionnaire design, interview techniques, local cultural customs, and other relevant topics to ensure that team members were familiar with the monitoring tasks and standards.

Field Monitoring Stage (July 18–July 23):

During this stage, questionnaires were distributed to both tourists and community residents, in-depth interviews were conducted, the commercial information database was updated, carbon emissions and environmental issues were monitored, and comprehensive and accurate data was collected.

Report Writing Stage:

In this stage, the research data, including questionnaire results, interview records, field

photographs, and audio/video materials, were organized and analyzed. An annual monitoring report was then written, covering 13 dimensions, and providing targeted policy recommendations and improvement measures.

Table 1 illustrated the issue areas respectively with corresponding indicators, dimensions and SDGs .

ISSUE AREA	INDICATORS	DIMENSIONS	SDGs
1 Local satisfaction with tourism	● Local satisfaction with the government's execution in tourism development ● Local satisfaction with the development of local tourism	Social-cultural	8 DECENT WORK AND ECONOMIC GROWTH 11 SUSTAINABLE CITIES AND COMMUNITIES 16 PEACE, JUSTICE AND STRONG INSTITUTIONS 17 PARTNERSHIPS FOR THE GOALS
2 Destination economic benefits	● Total tourism revenue ● Tourists' expenditure in destination	Economic	1 NO POVERTY 8 DECENT WORK AND ECONOMIC GROWTH 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
3 Employment	● The willingness of residents to participate in local tourism ● Occupational distribution of tourism practitioners in the sample	Social-cultural	5 GENDER EQUALITY 8 DECENT WORK AND ECONOMIC GROWTH 11 SUSTAINABLE CITIES AND COMMUNITIES
4 Tourism seasonality	● Monthly tourist number	Economic	8 DECENT WORK AND ECONOMIC GROWTH 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 11 SUSTAINABLE CITIES AND COMMUNITIES
5 Energy management	● Energy consumption and development goals	Economic Environmental	7 AFFORDABLE AND CLEAN ENERGY 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 12 RESPONSIBLE CONSUMPTION AND PRODUCTION 13 CLIMATE ACTION
6 Water management	● Water consumption	Economic Environmental	7 AFFORDABLE AND CLEAN ENERGY 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
7 Waste water management	● Water quality situation	Environmental	3 GOOD HEALTH AND WELL-BEING 6 CLEAN WATER AND SANITATION 11 SUSTAINABLE CITIES AND COMMUNITIES 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
8 Solid waste management	● Solid waste	Environmental	3 GOOD HEALTH AND WELL-BEING 11 SUSTAINABLE CITIES AND COMMUNITIES 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
9 Governance	● Communication	Social-cultural	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 11 SUSTAINABLE CITIES AND COMMUNITIES 16 PEACE, JUSTICE AND STRONG INSTITUTIONS

10 Climate action	● Climate change mitigation goals and actions	Economic Environmental	
11 Accessibility	● Accessibility facilities	Social-cultural	
12Commercialization	● Distribution of commercial facility types	Economic Social-cultural	
13 Carbon Emissions	● Carbon Emissions from Transportation ● Accommodation Carbon Emissions	Environmental	

1 Local Satisfaction with Tourism

This survey focused on residents residing in the Xidi scenic area. The research spanned from July 17, 2024, to July 24, 2024, encompassing a total duration of 7 days. The primary research methodology employed was questionnaire surveys, complemented by concise interviews. A total of 80 questionnaires were disseminated, out of which 78 were returned with valid responses, resulting in an effective response rate of 97.5%. The distribution of questionnaires covered significant residential zones and key tourist pathways within the Xidi scenic area, including Mingjing Road, Dalu Street, Henglu Street, Village Head, Tiangan Road, Qianbianxi, and Houbianxi. Throughout the research period, the survey zones were pre-divided based on street scale and the density of resident population, with efforts made to select times when residents were most available to seek their cooperation in completing the questionnaires. Consequently, this survey achieved extensive coverage, and the sample of respondents was representative of the community residents' perspectives, lending authenticity and breadth to the survey results.

The survey consists of the following six parts: awareness of the impact of Xidi tourism development, residents' satisfaction with their lives, livelihood capital, residents' perceptions and suggestions on tourism development, residents' perceptions and suggestions on heritage conservation, and basic information about residents. Among these, the awareness of the impact of Xidi tourism development, residents' satisfaction with their lives, and livelihood capital are measured using a Likert five-point scale, with options ranging from "strongly disagree" to "strongly agree," scored from 1 to 5 to gauge residents' level of agreement with specific statements. The other three parts, which include residents' perceptions and suggestions on tourism development, residents' perceptions and suggestions on heritage conservation, and basic information about residents, are primarily composed of multiple-choice and fill-in-the-blank questions, supplemented by short-answer questions. The survey design covers multiple aspects and indicators related to tourism within the community, featuring a comprehensive system and strong reference value.

1.1 Resident Demographic Information

The demographic characteristics of the surveyed residents is presented in Table 2-2. Among

the respondents, 51.3% were male and 48.3% were female, with a slightly higher number of male samples than females. Regarding age distribution, the 25-44 age bracket constituted the largest group at 42.5%, while the percentages for other age groups were below 30%. As for educational attainment, the majority of respondents had completed junior high school, high school or technical secondary school, and university or college, with no respondents holding a master's degree or higher, suggesting that the overall educational level in Xidi is relatively low. In terms of residential duration, 77.5% of the residents have been long-term inhabitants of Xidi, while 22.5% are seasonal residents. The majority of residents have lived in Xidi for an extended period, but compared to 2023, there has been an increase in the number of individuals from outside coming to Xidi for business purposes. Regarding the length of residence, 70% of the respondents have resided in Xidi for over ten years.

Table 2: Demographic analysis of surveyed residents

Attributes	Samples	Percentage	Attributes	Samples	Percentage
Gender			**Occupation**		
Male	41	51.3%	Student	9	11.25%
Female	39	48.7%	Farming households	1	1.25%
Age			Poultry farmers	1	1.25%
Under 15 years old	2	2.5%	Service workers	8	10%
15-24 years old	17	21.3%	Corporate employees	1	1.25%
25-44 years old	34	42.5%	Government or public institution staff	1	1.25%
45-60 years old	20	25%	Retired personnel	1	1.25%
Over 60 years old	7	8.7%	Individual private owner	54	67.5%
Educational level			Others	4	5%
Elementary school and below	4	5%	**Whether related to tourism**		
Junior school	26	32.5%	Yes	67	83.75%
High school or vocational secondary school	21	26.3%	No	13	16.25%
University or college	29	36.2%	**Monthly income**		
Master's degree or higher	0	0	＜1000	7	8.75%

Attributes	Samples	Percentage	Attributes	Samples	Percentage
Residence frequency			1001-2000	7	8.75%
Seasonal residence	18	22.5%	2001-3000	21	26.25%
Long-term residence	62	77.5%	3001-5000	17	21.25%
Residence duration			5001-10000	13	16.25%
Under 1 year	4	5%	＞10000	15	18.75%
1-3 years	6	7.5%	7-10 years	6	7.5%
4-6 years	8	10%	Over 10 years	56	70%

1.2 Resident Perception Survey

In conclusion, the satisfaction score of Xidi residents with the development of tourism remains at a high level, approximately 3.0. They hold a positive view of the economic impact of tourism, considering it has stimulated local economic growth and provided more job opportunities for the community. The cultural impact of tourism is also perceived positively by the residents of Xidi, who believe that the development of tourism has heightened awareness of the local cultural heritage, increased cultural pride among residents, and fostered cultural exchanges between locals and visitors. However, compared to last year, there has been a decline in residents' overall life satisfaction, which may be attributed to a decrease in the number of tourists in 2024 and a lower propensity to spend and purchasing power among those who did visit. The income of residents involved in tourism operations has not been as robust as in previous years, indicating issues with over-reliance on the tourism industry and the resilience of Xidi's economic development as a tourism-dependent community. In 2024, the livelihood capital of Xidi residents is relatively stable, with a high level of recognition for their social capital, but a more moderate level of recognition for their human, material, and natural capital. Brief interviews revealed that the majority of residents consider the overall income level to be average.

In the opinions and suggestions of residents on tourism development and heritage protection, the opinions mainly focus on six aspects: government management, ancient building protection, environmental management, tourism development, life security, and scenic area marketing promotion. Residents are seeking a balance between the protection and development of cultural heritage. The management parties of scenic areas and government units need to actively listen to the opinions of merchants and the public, make records and provide timely feedback. Some products should be priced according to standards, while better heritage protection and tourism development plans should be promoted. In terms of ancient building protection and development, balance the relationship between the protection and development of ancient buildings; explain to residents the necessity of approval procedures, set a maximum number of days for repair approval; research existing timber supply channels, integrate supply resources; optimize the existing repair funding and build a funding support structure. In terms of environmental management, residents are concerned about potential noise and light pollution from existing nighttime business products. In terms of tourism development, expand the types of tourism products, build a local IP cultural and creative product system, and try to provide new experiential tourism projects; deeply explore

the local traditional Huizhou and intangible cultural heritage, create pastoral Huizhou, and inherit and promote Huizhou culture. Especially among residents engaged in tourism operations, there is a belief that the number of visitors to Xidi needs to be increased. It is suggested that the operators of Xidi develop new experiential tourism projects, adopt more youthful marketing methods and channels, strengthen promotional efforts, broaden promotional and tourism paths, improve the efficiency of attracting visitors, and achieve diversified development of Xidi tourism.

2 Destination Economic Benefits

The tourism industry of Xidi Village plays a vital role in driving the economic development of Xidi Town. In 2023, the village attracted 1.0679 million tourits, reflecting a remarkable year-on-year increase of 231.01%. During the same period, ticket revenue soared to 43.3929 million yuan, a significant growth of 253.86% compared to 2022 (Yi County Government, 2024). These figures highlight a strong recovery from the challenging years of pandemic.

2.1 Tourists' expenditure in destination

The monitoring in Xidi Village collected 296 questionnaires from tourists, with 287 valid responses, achieving an effective rate of 97%. Among the respondents, there are 71 tourists (25%) reported spending less than 1,000 yuan during their visit, 92 tourists (32%) spent between 1,001 and 2,000 yuan, and 63 tourists (22%) spent between 2,001 and 3,000 yuan. Meanwhile, only 55 tourists spent over 3000 yuan, accounting for 19%. While there has been a slight increase in tourist spending compared to 2023, most visitors still spend less during their visits to Xidi.

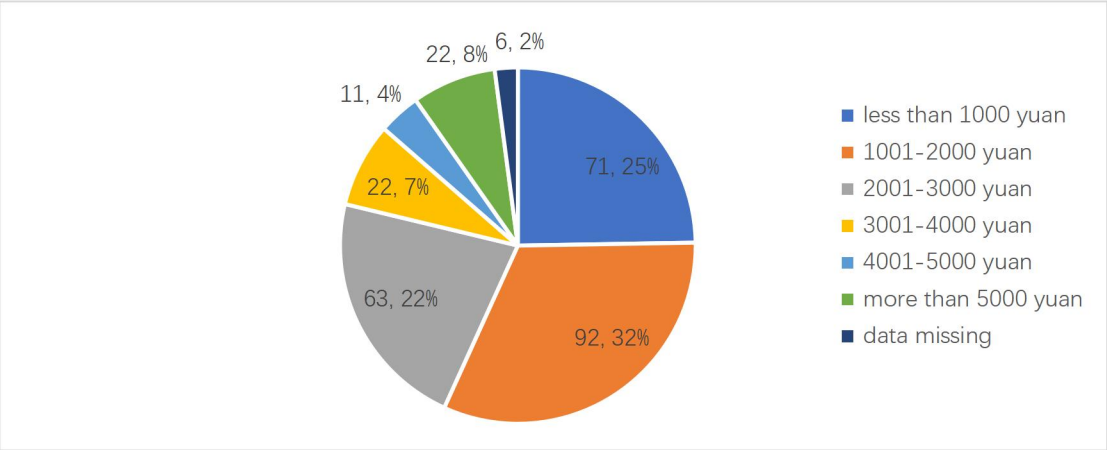


Figure 1 Surveyed tourists' expenditure in Xidi

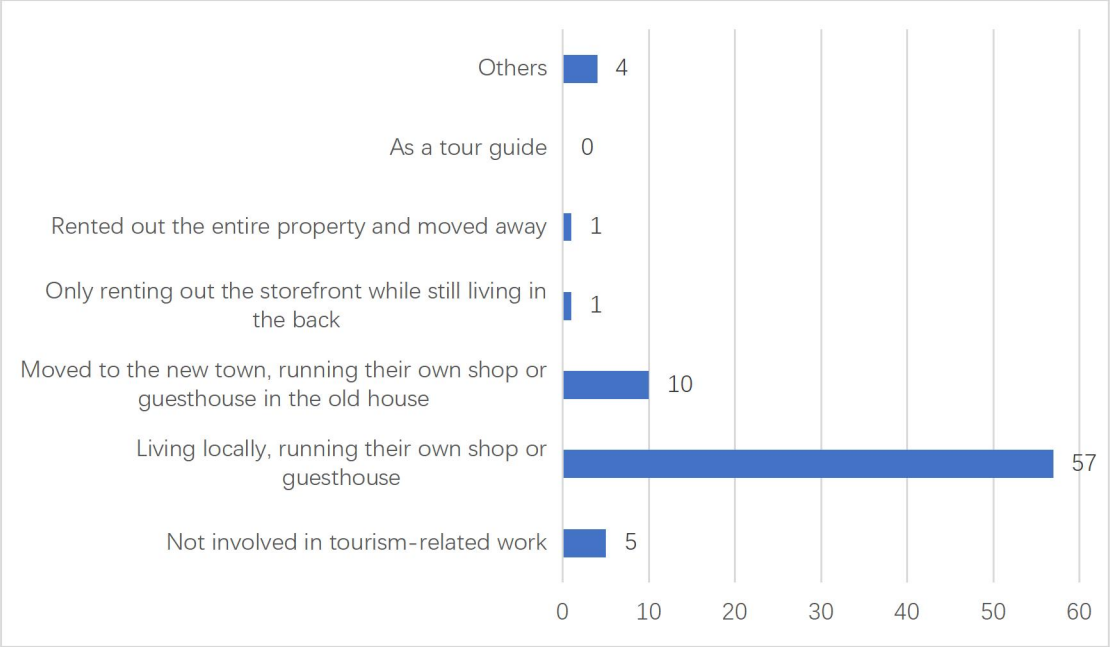
Interviews with merchants revealed that despite during peak periods, store profits did not show significant growth due to tourists' low willingness to spend. Survey results further supported this, 22.5% of surveyed tourists reported no accommodation expenses in the destination, and 28.9% indicated they did not spend on any experiential activities. The reason for low expenditure could be the expensive price for the entry fee, with the average tourist satisfaction score for ticket prices being just 3.22 out of 5, and many tourists expressed concerns that ticket prices were too high, and fees for additional services, such as guided explanations, were overly expensive. Destination managers need to be aware that the current situation is unsustainable and not conducive to

communities benefiting from tourism

3.Employment

For a long time, tourism has been a crucial driver of employment and economic development in the Xidi region. The growth of this industry has directly contributed to the prosperity of several sectors, including tourism transportation, accommodation, aviation, and dining, providing a wide range of employment opportunities.

In the sample collected this time, 95% of respondents are currently or have previously worked in tourism-related jobs. Among these tourism workers, most live locally and are engaged in providing tourism products and food services. Based on occupational distribution data from the respondents, the proportion of local residents involved in the tourism industry has increased by nearly 7% compared to 2023.



Figure：Occupational distribution of tourism practitioners in the sample

4 Tourism Seasonality

In 2023, Xidi Village attracted 1.0679 million tourists, marking a remarkable growth of 231.01% compared to 2022. Building on this momentum, Xidi Village introduced a trendy and youthful marketing strategy in 2024, aimed at attracting more young tourists. These efforts include diversifying the landscape offerings and leveraging live-streaming sales with influencers. In the meantime, with the lifting of pandemic restrictions, international tourism to China is also on the rise, bringing increased attention to Xidi Village. Recognized for its prestigious designations as a UNESCO World Heritage Site and a UN Tourism Best Tourism Village, Xidi's global reputation continues to grow. According to data provided by Yi County Huihuang Xidi Tourism Development Co., Ltd., the village welcomed 855 international tourists in 2023, with 908 visiting in just the first half of 2024.

However, like many other destinations, Xidi also experiences distinct tourism seasonality. As

shown in Figure 2, April is generally the peak month, with a total of 14,900 tourists. From December to February, Xidi sees a significant drop in tourists number, with no more than 5,400 tourists per month.

The months from March to May and October experience high tourist numbers in Xidi, coinciding with major holidays such as Labor Day and National Day, which draw large crowds and create peak periods. Interestingly, July and August do not experience the highest tourist numbers. This may be due to a lower proportion of family tourists who typically travel during the summer vacation, resulting in only moderate growth during this period.

In summary, Xidi shows a tourism pattern with strong peaks in spring and autumn, a moderate influx during summer, and a low season in winter.

5 Energy management

In terms of energy use, Xidi still mainly relies on electricity, natural gas, and solar energy, with a relatively low frequency of use of new energy.

Overall, the current energy supply situation in Xidi can meet the needs of tourists and residents in the scenic area. During the interview process, the operators generally provided feedback that the water and electricity prices in the scenic area are relatively reasonable or they have not paid attention to the tiered water and electricity prices in the scenic area, indicating that energy supply costs have not become a cost pressure for operation. On the other hand, it also indicates that the awareness of energy conservation and emission reduction in the scenic area is relatively weak.

6 Water Management

The water resources in Huangshan City are mainly composed of surface water and groundwater. Surface water includes natural water bodies such as rivers and lakes, while groundwater primarily serves as a source of drinking water, providing safe and reliable drinking water for local residents. These two types of water resources together constitute the abundant water resource system in Huangshan City and the Xidi area.

- In recent years, Huangshan City has achieved remarkable results in water environment protection, maintaining its water environment quality in a consistently good state. Key water quality indicators such as surface water, drinking water source groundwater, and other relevant parameters have all achieved a 100% compliance rate, with the water quality at the outbound sections also meeting the Class I surface water standards.
- The overall evaluation of water quality in Xidi by villagers has gradually declined.

They generally believe that wastewater from sketching paints is one of the main factors contributing to the deterioration of water quality. Due to the increase in sketching students, some paint wastewater is directly discharged into rivers, resulting in a significant decline in water quality.

- Through measures such as strengthening the construction and operation of sewage treatment facilities, improving the water quality monitoring system, and enhancing environmental protection controls, the water quality in Xidi has seen significant improvement. The villagers of Xidi have also become more actively involved in water resource protection and environmental protection actions, supervising and guiding others to jointly protect water resources and the ecological environment.

The water landscapes within the scenic area skillfully integrate the unique Huizhou cultural heritage of Xidi, not only forming important tourist attractions but also inspiring countless artists and visitors with creative inspiration. The crystal-clear streams peacefully flow through the village, not only nourishing the land but also witnessing the beautiful picture of harmonious coexistence between humanity and nature in Xidi.

7 Waste Water Management

The water pollution in Xidi mainly originates from tourists and residents. These wastewaters are categorized into ordinary wastewater containing common pollutants and special wastewater containing heavy metals and other special pollutants. With varying degrees of treatment difficulty, they collectively pose challenges to the water environment in Xidi.

Ordinary wastewater

- Ordinary wastewater primarily consists of common pollutants such as organics, detergents, fats, and oils generated from commercial water use (including tourism service activities like homestays and restaurants) and residents' daily life.
- With the thriving tourism industry in the Xidi scenic area, the number of homestays has surged, leading to a significant increase in the discharge of daily life wastewater from tourists and residents. However, the sewage system in the entire village has been comprehensively laid out, and there is a mandatory requirement for commercial establishments with large water consumption and

sewage discharge, such as homestays and farm stay inns, to connect to the system. As a result, this type of wastewater can be treated more properly.

Wastewater Treatment

- The scenic area has undertaken renovations to the existing wastewater treatment terminals, and the wastewater pipeline network has been extended to cover over 400 households in villages such as Xidi. Plans are in place to construct a vacuum wastewater collection pipeline system that will serve more than 1,800 people.
- For B&Bs and catering establishments that cannot be connected to a unified sewage system, Xidi has implemented a decentralized wastewater treatment plan. They have installed 92 integrated ecological wastewater treatment units, ensuring that the wastewater meets discharge standards through processes such as sedimentation and purification.

Within the scenic area, there are 8 locations equipped with a total of 36 paint wastewater collection buckets specifically for use by sketching groups. Sanitation workers periodically collect and dispose of the paint water based on the number of sketching students and the accumulation in the paint buckets. Additionally, four paint wastewater collection pools have been constructed or are under construction at locations where sketching activities are frequent and prone to generating paint wastewater, addressing the potential pollution of rivers caused by paint water discharge in a centralized manner.

8 Solid Waste Management

As one of the world's best tourist villages, Xidi is committed to carrying out comprehensive environmental management in 2024. Overall, tourists are satisfied with the garbage disposal and environmental cleanliness of Xidi. Residents have provided feedback that it has provided significant benefits to the improvement of village environmental sanitation. Some operators also believe that this method of garbage classification and timely recycling, as well as centralized sewage pipeline treatment, is beneficial for the long-term environmental maintenance and sustainable development of tourism in Xidi.

Garbage type

The garbage generated in Xidi Village can be divided into residential garbage and tourist garbage according to the main body. According to the generation pathway, it can be divided into household waste, tourism waste, and construction waste. According to the recycling method, it can be divided into recyclable waste and non recyclable waste.

Garbage classification

Xidi Village has initially formed a garbage bin layout system for garbage classification, and has consciously promoted the necessity of garbage classification to villagers.

However, in the actual operation process, there are many situations where garbage is not disposed of according to classification, such as placing kitchen waste and construction waste in ordinary garbage bins, and randomly placing garbage on the streets at night. At the same time, kitchen waste remains in the garbage bins, causing odors and affecting the traffic and hygiene of some alleys.

Distribution of garbage bins

During the on-site visits and research in the scenic area, according to incomplete statistics, a total of 89 equipment such as garbage bins and garbage bins were located within the core area of the scenic area.

Overall, the number of garbage bins in Xidi Scenic Area is relatively sufficient, with a combination of fixed-point garbage bins and movable garbage bins, and equipped with specialized garbage bins for recycling cigarette butts. The selection of the Xidi garbage bin location is mainly based on the flow of people, and there is no planned positioning selection yet.

The distribution of garbage bins in the scenic area is relatively uneven. Most of the garbage bins placed in the scenic area are concentrated in areas with a high number of tourists passing through, such as the main road of Xidi, and are mostly located at the intersection of streets and alleys. Some residents choose to place their own private garbage bins on the roadside to make up for the shortage of garbage bins in their living areas.

The style of garbage bins along the street is not uniform. There are various garbage bins with different logos and specifications placed side by side in the village, and the aesthetics need to be improved. The number of collection bins for kitchen waste in the village is relatively small, and the usage rate is generally low among villagers. They

will discard kitchen waste, clothing, construction waste, and other household waste together in ordinary garbage collection bins, which puts pressure on subsequent cleaning and disposal work.

In terms of garbage disposal in the water area, especially near Mingjing Lake, it is mainly collected by passing staff using tools. At the same time, specialized garbage removal ships are equipped to collect and dispose of garbage in areas that cannot be directly reached in the center of the lake.

9 Governance

Since the 1980s, Xidi Village has embarked on the development of tourism. In 1994, the village-established Xidi Tourism Development Company was founded. Part of the tourism revenue from tickets and others was allocated to tourism development and heritage protection. Since 2015, the exclusive development, operation, and management of Xidi Village have been undertaken by Yixian Huihuang Tourism Development (Group) Co., Ltd., which conducts tourism development by protecting and activating the utilization of cultural heritage. With the vigorous development of tourism, Xidi has also been actively improving the regulations and systems related to tourism.

Communication

On August 22, 2024, the “Ancient Rhymes and New Postures, Poetic Xidi” – 2024 Cultural and Tourism New Product Release and Tourism Industry Promotion Conference of Xidi Town, Yixian County, was jointly hosted by the People's Government of Xidi Town, Yixian County, and the Huangshan Chamber of Commerce of Nanjing. The participants included entrepreneurs from Nanjing, representatives of the media, and responsible persons of relevant departments. At the promotion conference, Xidi Town focused on small farms, small orchards, small tea gardens, small workshops, small guesthouses, cultural and tourism products, healthcare and leisure real estate projects, and tourism industry patterns within its jurisdiction. The mayor of Xidi Town, Zhang Fei, delivered a speech at the conference. Through videos and PPT presentations, the conference vividly depicted the harmonious coexistence of nature and humanity in Xidi, as well as the perfect integration of the ancient and the modern, enabling the participants to profoundly experience the rich new tourism patterns and scenarios of Xidi.

It was introduced at the promotion conference that Xidi has launched a series of innovative tourism products, encompassing multiple domains such as healthcare and vacation, sketching and research studies, cultural experiences, and self-driving tours. The aim is to satisfy the diversified needs of different tourist groups and comprehensively showcase the charm of Xidi's landscape, humanity, and its friendly and beautiful image. Xidi Town sincerely invites all circles to join hands and jointly plan for cultural and tourism development, and jointly explore new paths and models of cultural and tourism integration. The successful holding of this cultural and tourism new product release and tourism industry promotion conference not only deepened the cultural exchanges and cooperation between Nanjing and Yixian County but also injected new vigor and momentum into the transformation and upgrading of Xidi's cultural and tourism industry.

Figure 3 Yixian Xidi Town Cultural and Tourism New Product Release and Xidi Tourism Business Promotion Conference

10 Climate Action

As a historic ancient village, Xidi is renowned for being China's best-preserved cluster of ancient dwellings. With a forest coverage rate of 86%, Xidi Village boasts lush mountains, clear waters, ancient dwellings, intangible cultural heritage projects, farming culture, and Huizhou-style homestays, attracting nearly a million tourists annually for visits and experiences. In recent years, by exploring a sustainable development path featuring positive interactions among "people, objects, and

scenery," Xidi has gradually grown into a world-renowned rural tourism destination.

To tightly integrate ecological conservation with tourism development, Xidi has adopted a series of effective measures, successfully achieving a win-win situation for both.

- In terms of enhancing environmental awareness, Xidi actively promotes policies, regulations, and knowledge related to ecological conservation. Through various means such as radio broadcasts, banners, and electronic slogans, it has widely disseminated environmental protection concepts, significantly raising residents' awareness.
- As of July 2024, Xidi has posted over 60 notices prohibiting straw burning, distributed more than 1,700 copies of the "Letter on Comprehensively Prohibiting Straw Burning," dispatched three promotional vehicles, conducted over 1,960 household visits for promotion, and hung nine banners. Additionally, in conjunction with forest fire prevention, fire brigades, and law enforcement teams, it conducts round-the-clock patrols within the town area, with a combined total of over 300 patrols by the town and village, adhering to the goal of achieving no fire points throughout the year for regular straw burning prohibition.
- In terms of strengthening corporate environmental responsibility, Xidi visits key projects within its jurisdiction door-to-door, providing in-depth explanations on the prevention, response, and handling of environmental issues, and requiring enterprises to establish long-term management and maintenance mechanisms to ensure that all environmental protection measures are implemented. In 2021, Xidi successfully completed the registration of pollutant discharge permits for the first batch of 11 enterprises, laying a solid foundation for their green development.
- In terms of improving infrastructure, Xidi continuously strengthens the daily supervision and maintenance of sewage treatment facilities to ensure the normal operation of all sewage terminals, effectively preventing pollution to river water environments from direct sewage discharge. Furthermore, Xidi has opened four "Ecological Beauty Supermarkets," further promoting in-depth garbage classification and recycling efforts.

11 Accessibility

As a nationally renowned historic and cultural village and tourist attraction, Xidi Village attracts a large number of tourists every year, including many elderly people

and individuals with disabilities. To ensure that these visitors can better enjoy the unique charm of the countryside, Xidi Village has taken the following measures in terms of accessible facility construction.

- Adequate Lighting and Clear Signage: The village roads are equipped with sufficient lighting and clear signage. Additionally, spacious plaza areas are reserved at the entrances and exits to accommodate emergency vehicles such as ambulances.
- Accessible Toilets: The scenic area is equipped with accessible toilets to meet the needs of tourists with disabilities. The toilets have spacious interiors to facilitate wheelchair access, and door handles and sanitary facilities are designed for easy operation, such as low-positioned buttons and grab bars, to ensure that tourists with disabilities can use them independently and safely.
- Rest Areas and Stone Benches: Rest areas with stone benches are set up at intervals within the village for tourists to rest and enjoy the scenery.
- Road Accessibility Challenges: Although the alleys inside the scenic area are generally flat and do not pose too much of a challenge for ordinary tourists, they do present certain difficulties for tourists with disabilities. These alleys are narrow, mainly accommodating pedestrians, electric bikes, and small tricycles, making it difficult for emergency vehicles such as ambulances to access the interior.

12 Commercialization

Based on field research, the commercial types were categorized into six groups:

A: Accommodation (hotels, guesthouses, etc.)

B: Dining (restaurants, food stalls, etc.)

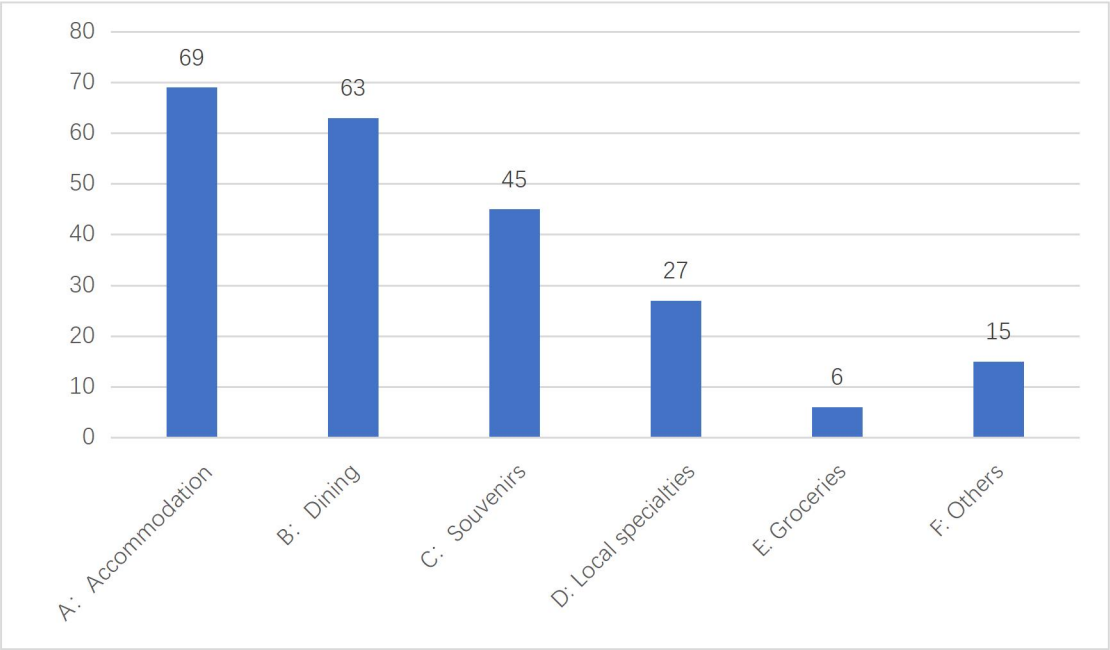
C: Souvenirs(wood carvings, bamboo carvings, stone carvings, inkstones, postcards, jewelry shops, antique shops, etc.)

D: Local specialties(tea shops, liquor, etc.)

E: Groceries(community supermarkets, supply and marketing cooperatives, etc.)

F: Other types of shops

Among all commercial types, accommodation is the most prevalent, followed by dining, souvenirs, and local specialties. Groceries and other types of shops are less common. Compared to 2023, there was a significant increase in dining establishments, with 11 new shops, while there was a noticeable decrease in local specialty and grocery shops, which decreased by 9 and 7 respectively.



Figure：Shop Types in Xidi

13 Carbon Emissions

The tourism industry contributes approximately 8% of global greenhouse gas emissions, making it a key driver of global climate change. As a result, evaluating tourism's carbon emissions is essential for destinations aiming to achieve sustainable development. To assess the sustainability of tourism in Xidi Village and address challenges in heritage conservation, this monitoring initiative focused on conducting a comprehensive analysis of the carbon emissions associated with Xidi's tourism industry. The study examined emissions from various aspects, including transportation, accommodation, and other tourism-related sectors. Its goal is to help Xidi develop effective strategies for monitoring and reducing carbon emissions, advancing sustainable development, and addressing the global challenge of climate change.

Carbon Emissions from Transportation

Transportation-related carbon emissions in Xidi are primarily driven by private car trips and cab rides, as these modes have higher unit emission factors. For tourists, the majority of transportation emissions stem from external and inner-city transportation, while emissions from internal transportation within the destination are negligible, as walking is the predominant mode of travel. Estimates for 2023 indicate that each tourist generates an average of 24.83 kg CO2 in transportation emissions, with the total annual transportation emissions from tourists projected at 2,367.32 tons CO2. For residents in Xidi, transportation emissions mainly come from a small number of individuals using private cars, while the majority rely on lower-carbon modes of travel such as e-bikes and walking.

Accommodation Carbon Emissions

Xidi serves as both a tourist destination and a residential community, resulting in

accommodation-related carbon emissions from both sides. These emissions primarily arise from electricity consumption, with some households also using gas. Additionally, electricity consumption is significantly higher in winter due to heating demands. According to a sample survey, the average annual carbon emissions from tourist accommodations in Xidi are 772.31 kg CO_2, whereas residential accommodations generate an average of 41.75 kg CO_2 per year—substantially lower than the emissions from the tourism accommodation sector.

Carbon Emissions from Other Tourism Sectors

In Xidi's food and beverage industry, carbon emissions primarily come from employee commuting, material transportation, and store operations, which mainly rely on gas and electricity. The average annual catering carbon emissions are 533.42 kg CO_2 per store.

In the retail sector, carbon emissions are primarily associated with the energy consumption of tourist retail stores during the production, storage, and sale of goods. This sector generates lower emissions compared to others, with an average annual carbon emission of 184.36 kg CO_2 per store

Monitoring Work Summary and Plan

Achievement of Goals

Overall, this year’s monitoring work has successfully achieved all the goals set around 13 key monitoring issues. Additionally, two thematic studies on commercial activities and carbon emissions were conducted, in line with the characteristics of the ancient village heritage. The monitoring work covered tourist perception and satisfaction, environmental experiences, and other aspects. It also investigated the perceptions of local residents in Xidi regarding the impact of tourism, life satisfaction, livelihood capital, and their views and suggestions on tourism development and heritage protection. The commercialization development of Xidi was tracked, and the environmental issues such as water resources, wastewater, and solid waste were monitored. Furthermore, carbon emissions from tourists and residents' transportation were measured.

Role of Monitoring Points During This Period

The monitoring points primarily played a role in monitoring and recording, establishing deeper connections, and facilitating knowledge sharing. Through the adjustment of indicators during the monitoring process and the design of targeted topics, data on energy, environmental management, and cultural preservation were collected. The perceptions of stakeholders, existing issues, and development suggestions were also gathered, all aligned with the goals of sustainable development. Feedback on the post-pandemic tourism development of Xidi and the key areas for future sustainable tourism development was provided to government departments, local managers, and tourism operators through discussions and reports.

Major Achievements and Challenges in the Past Year

In the past year, we attempted to more effectively measure monitoring indicators, including the breadth and depth of interviews, measuring carbon emissions at both the scenic area scale and destination scale, and building stronger trust relationships with government departments and local

residents. We also obtained stage-specific data such as electricity and water usage, as well as commercial operation data for Xidi.

While there were achievements, there were also challenges. The biggest challenge in the past year was how to establish better connections with stakeholders such as business owners, residents, and tourists. These groups are all key actors in sustainable tourism development, and understanding them better and engaging them more effectively in promoting sustainable tourism is a significant challenge.

Urgent Data Needs

There is an urgent need to expand the collection of dynamic, periodic data on electricity usage, water usage, air quality, etc. Along with the analysis of these data, it is essential to engage with users such as operators, residents, and tourists to explore their perceptions and thoughts on topics like energy consumption or environmental quality. By integrating existing energy-saving and emission-reduction targets and technologies, we aim to promote the sustainable development of Xidi's energy and environmental systems.

Goals for the Next Year's Report

The monitoring team's schedule will be more reasonable, with clearer division of labor and better coordination.

Efforts will be made to obtain dynamic, periodic data on energy, water resources, air quality, etc., combined with users' perceptions and the effective use of technologies, to promote energy conservation and emission reduction and maintain or even improve the environmental quality.

The content of tourist and resident questionnaires and interview outlines will be further optimized. Adjustments will be made based on changes in sustainable development goals and the key focus areas of monitoring.

Strengthen partnerships and knowledge sharing. It is planned to organize a seminar on sustainable production and consumption for tourism businesses within the Xidi Scenic Area next year and introduce the concept of sustainable tourism and individual actions to tourists.

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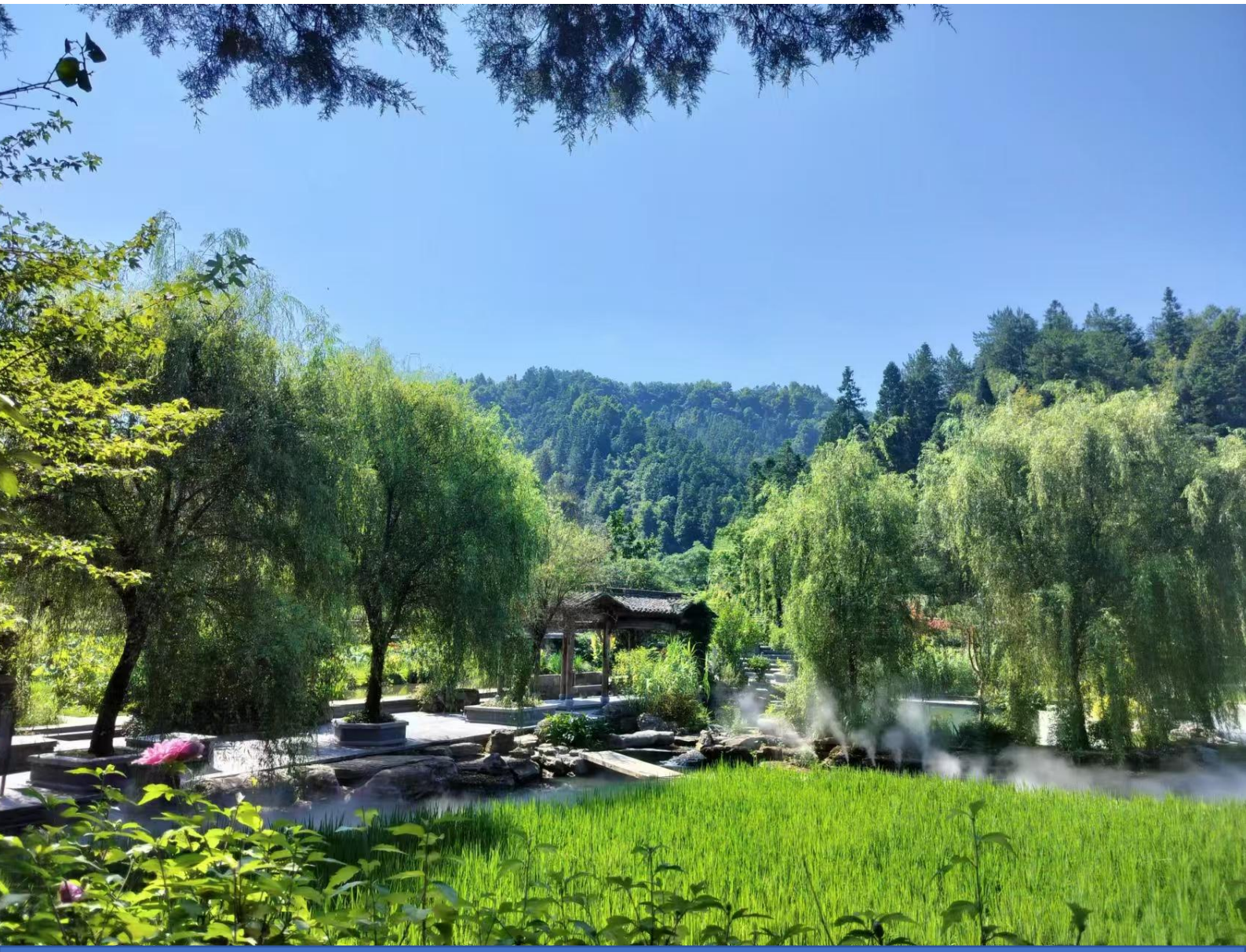

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