

Simulation Research on the Deep Development System of Rural Eco-tourism in Nanchang City in the Era of Big Data

Xiaochen Wang and Yongli Dai

Nanchang Institute of Science and Technology, Nanchang 330108, China

358709828@qq.com

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Abstract: With the rapid development of Internet technology today, our country has entered the era of big data. As an important part of the tourism industry, rural Eco-tourism has its own particularity. Based on the big data environment, this paper discusses the development status of rural Eco-tourism in Nanchang under the background of the new era, expounds the application of the simulation system in the tourism industry, and discusses the in-depth development system of Eco-tourism in Nanchang. Finally, the experiment also explored the tourists' evaluation of the rural Eco-tourism construction in Nanchang. The results of the experiment showed that 35.2% of the tourists believed that the rural Eco-tourism in Nanchang had the problem of vegetation destruction, and 15% of the tourists thought that the rural Eco-tourism in Nanchang was in the rural Eco-tourism. The commercialization of folk culture is serious.

1. Introduction

In the era of big data, rural Eco-tourism has ushered in new development opportunities, and its impact cannot be underestimated. In today's society, people have certain demands for information, network, and intelligent technologies. With the advent of the Internet + era and the concept of "smart city", the trend continues to promote the transformation and upgrading of traditional industries to emerging industries; at the same time, many new business formats such as the Internet of Things and cloud computing have been derived from the rapid development of modern information technology. Technology has provided more opportunities for the development of rural Eco-tourism, but its impact should not be underestimated. While rural Eco-tourism promotes rural economic and social development, it also brings a series of ecological problems. First, the natural ecological environment in rural areas has been damaged to varying degrees. Rural Eco-tourism has

attracted a large number of urban tourists to enter the rural areas for leisure and vacation activities. The loss of Eco-tourism resources in rural Eco-tourism destinations has increased and the rural ecology has also been destroyed. The balance of the environment has led to the deterioration of air quality in rural areas, increasing environmental pollution, and the destruction of biological vegetation to varying degrees. Second, the cultural and ecological environment of rural Eco-tourism has also been greatly impacted. Traditional folk customs and customs in rural areas have gradually disappeared, and the lifestyle and moral beliefs in rural areas have been impacted. It is difficult to retain a "homesickness". In summary, the emergence of a series of ecological problems has caused great changes in the natural and social environments of rural Eco-tourism areas, which has affected the sustainable and healthy development of rural Eco-tourism destinations. Therefore, the development of rural Eco-tourism must be guided by ecological theory and integrated into the content of ecological civilization. The construction of ecological civilization is an important link and key content of the construction of rural Eco-tourism. This also requires the vigorous development of rural Eco-tourism, promoting the transformation and upgrading of rural Eco-tourism destinations, and accelerating the harmony and unity of economic, ecological, and social benefits in rural areas [1-2].

In order to realize the sustainable development of rural Eco-tourism, many scholars seek new ideas for the construction of rural Eco-tourism by studying rural Eco-tourism. LI, Zhiguo and SUN took the rural landscape in the mountainous area of southern Shaanxi as an example, introduced the connotation of rural Eco-tourism, analyzed the advantages of the development of rural landscape tourism resources in the mountainous area of southern Shaanxi, explained the problems in the development of rural landscape in the mountainous area of southern Shaanxi, and concluded Its rural landscape tourism is underdeveloped, and its ecological awareness needs to be strengthened urgently, and the rural landscape features have not been fully explored [3]. Zhao D elaborated on the status quo of ecotourism research and protection of rural folklore, and proposed the planning and design of rural folklore tourism. Taking the specific rural folklore ecotourism project as an example, he focused on analyzing the design of caves, temples, roads and other buildings. The main points are that it is inevitable to analyze the architectural planning and design of folk ecotourism [4]. Khalili S, Moridsadat P, Soltaninejad H and others studied the rural Eco-tourism situation in the Kiskan Rural District (KRD) in Kerman Province, Iran through SWTO analysis. Through the interview data with villagers, village chiefs, etc., they determined that the KRD The status of rural Eco-tourism and the weight of each of the four SWOT factors are measured. Finally, it is pointed out that the KRD Eco-tourism development strategy is active and should be developed with the help of existing technology [5].

Jiangxi Province has been known for its outstanding people since ancient times. As the capital city of Jiangxi Province, Nanchang City is famous for "falling clouds and lonely birds flying together, and autumn waters in the same color." Today, with the rapid development of big data, rural Eco-tourism in Nanchang is in full swing. However, in recent years, rural Eco-tourism in Nanchang has reached a certain bottleneck period, and many problems have been accumulated in the process. By analyzing the status quo and existing problems of rural Eco-tourism development in Nanchang City, the corresponding countermeasures and guarantees for the in-depth development of rural Eco-tourism are put forward, so as to realize scientific guidance for the development of rural Eco-tourism in Changsha County, which is also conducive to the breakthrough of the bottleneck development stage of rural Eco-tourism in Nanchang. Achieving healthy and sustainable development can also provide a reference for the sustainable development of ecological tourism in Nanchang and its surrounding rural areas.

2. The Simulation Study of the In-Depth Development System of Rural Ecotourism in Nanchang in the Era of Big Data

2.1. Sustainable Development of Rural Ecotourism under the Background of Big Data

Sustainable development is the core development concept for the development of rural tourism and the foundation for the development of rural leisure tourism. Its essence is to promote the harmonious and unified development of economic benefits and natural culture. At present, many factors restrict the development of rural leisure tourism in China. For example, in order to achieve certain economic benefits, the local natural resources are developed unrestrainedly, and protection measures are not taken at the same time. As a result, natural resources are over-exploited and maliciously wasted. Secondly, because the basic quality of rural tourism practitioners is generally low, most practitioners only focus on immediate economic benefits and ignore long-term economic development, resulting in irreversible short-term behavior. This shows that when developing rural tourism, we must carefully analyze and deal with the carrying capacity of the society, economy, culture, and natural environment based on sustainable development. Regarding these factors as a whole, only in this way can we avoid short-term behaviors such as quick success and short-term profit in the process of developing rural tourism, and ensure the long-term development of rural leisure tourism [6-7].

2.2. Overview of Rural Eco-tourism in Nanchang

2.2.1. Status Quo of Rural Eco-tourism Development in Nanchang City

Due to economic constraints, the development of rural Eco-tourism in Nanchang is relatively lagging. The rural Eco-tourism service system is not perfect, and there are many shortcomings in the operation process. The main manifestations are as follows: 1. Rural Eco-tourism operators are mostly nearby villagers, and their operating locations are scattered. The low level of education of farmers leads to a single rural Eco-tourism service mode. 2. Unfair competition and lack of scientific planning lead to redundant construction and non-scale operations. 3. Insufficient publicity and insufficient supporting products for rural Eco-tourism make rural Eco-tourism lack of market competitiveness. Nanchang rural Eco-tourism is mainly represented by Meiling Scenic Area and Huangma Scenic Area. Develop and construct tourism projects such as farmhouses, hiking, and flowers and scenery. Among them, farmstay is the core tourism product. At present, it is highly valued by the municipal party committee and the municipal government. Nanchang is located in the north of central Jiangxi. It is the political, economic, and cultural center of the province. It has been known as the "Min Ting of Cantonese Family, Wu Head and Chu Tail" since ancient times. Nanchang has convenient transportation and is one of the central cities in the middle reaches of the Yangtze River. The high-speed rail lines cover wide coverage and the transportation is convenient.

2.2.2. Damage to Natural Ecology

As rural Eco-tourism in Nanchang is still in the development stage, many places where rural Eco-tourism is developed have various problems. The most important problem is the destruction of the local natural ecological environment by the construction of tourist facilities. In some of the newly-built scenic spots in Nanchang, due to the lack of unified planning, a large number of vegetation has been destroyed for the purpose of building tourist facilities and the phenomenon of

disturbing the regional ecological cycle has occurred. In order to build tourist facilities, the local vegetation was destroyed and the local ecological circulation system was disturbed. In this way, it is not advisable to exchange the environment for the improvement of economic benefits, and it is not conducive to the sustainable development of green waters and green mountains. In order to create a quiet environment in some scenic spots, a large number of pavilions, pavilions, bridges and other buildings have been built. What follows is the noise of tourists instead of the tranquility of the past. At the same time, it destroyed the living environment of some wild animals and forced them to migrate. During the tourist season, the capacity of tourists is not paid attention to, and the endless reception of tourists exceeds the number of tourists in the scenic spot, thus posing a certain threat to the scenic environment. In order to pursue economic benefits, some county and township governments have ignored the objective laws of things and expanded tourist attractions on a large scale. In addition, the uneven quality of tourists has caused irreversible damage to the tourist environment. What's more, they still attract tourists under the slogan of Eco-tourism despite the waste of ecological resources and the wanton destruction of the ecological environment.

2.2.3. Impact on Primitive Culture

In the era of big data, the rural Eco-tourism industry has developed rapidly, and residents of many ancient villages have opened farmhouses and leisure farms. Or rent out their houses to vendors in other places for them to sell goods. Some houses are still wooden houses in the past. Because local residents do not have enough money and ability to repair the houses, the houses may collapse due to external forces at any time. Despite this, there are still many people who have converted their houses into standard rooms to provide accommodation for tourists. In summary, the relevant departments have formulated a series of regulations and policies on the protection of ancient buildings and the restoration of ancient buildings in accordance with local conditions. As a result, damage to ancient buildings due to years of disrepair and other reasons can be effectively avoided, so that the local culture has been passed on.

2.3. Analysis of the In-Depth Development System of Rural Eco-tourism

In the absence of tourism development in rural areas, due to the low awareness of cultural protection of residents, economic backwardness and low educational level of residents, rural tourism resources have been destroyed, resulting in rural economic backwardness and widening the development gap between urban and rural areas. After the development of rural Eco-tourism, the residents' economic income has increased, thereby increasing the residents' sense of identity with the countryside, promoting the improvement of the rural cultural level, enabling the protection of rural tourism resources and folk culture, and narrowing the gap between urban and rural areas. This is the positive impact brought by the development of rural tourism. In the process of rural Eco-tourism, too many tourists make the rural ecology unbearable, which will lead to the destruction of rural natural ecology. In order to obtain economic benefits, rural tourism activities have become staged and commercialized seriously, and the rural originality has been lost. Some characteristics, too much commercialization also make the rustic style of the countryside no longer. This is the negative impact brought about by the development of rural Eco-tourism. Positive and negative influences exist at the same time, forming a cycle [8-9].

System simulation is widely used in many tourism industries. It can go deep into the system structure and accurately analyze the development trend and influencing factors of a certain thing. It has a very large auxiliary role for policy analysis. The development of rural Eco-tourism system is

relatively complicated. There are many factors that affect the overall effect of rural Eco-tourism, including governments, enterprises, tourists, operators, residents, etc. It is difficult to intuitively understand which factors affect rural Eco-tourism. Whether the impact is positive or negative. Coupled with the constraints of human, material and financial resources on the development of rural Eco-tourism, the development of rural Eco-tourism system will be a challenging task [10-11]. System simulation can effectively grasp the internal factors and evolutionary relationships of rural ecotourism. It analyzes the operating conditions of the positive and negative circulation system of rural ecotourism development through system simulation dynamics, understands how its dominant advantages are replaced, and masters rural ecology The laws and characteristics of tourism development can accurately formulate development plans to achieve the simultaneous development of rural cultural value and economic value [12].

3. The Survey Experiment of Rural Eco-tourism Tourist Experience in Nanchang City

3.1. Experimental Content

In order to provide reference for the rural Eco-tourism development system in Nanchang City, a questionnaire survey was conducted among tourists who came to Nanchang for rural Eco-tourism. The survey content included tourists' opinions on the ecological environment, infrastructure, folk culture and service level of rural Eco-tourism attractions in Nanchang City. The form of the questionnaire is a paper questionnaire, which is randomly distributed by the investigators at the main scenic spots of rural ecotourism in Nanchang. The survey lasted one week. A total of 1,376 questionnaires were distributed, and 1,236 questionnaires were effectively returned, with a recovery rate of 89.8%.

3.2. Experimental Process

Design the questionnaire based on the survey content, distribute and return the questionnaire, and summarize the results of the questionnaire. In view of the summarized results, conduct data analysis, summarize the problems existing in rural Eco-tourism in Nanchang City, and put forward suggestions for improvement to relevant management units or organizations. Formula used in data processing

Sample variance formula:

$$s^2 = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1} \quad (1)$$

Sample standard deviation formula:

$$s = \sqrt{s^2} = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}} \quad (2)$$

4. Analysis of the Survey Results of Rural Eco-Tourism Tourist Experience in Nanchang

In the questionnaire, a subjective question was designed: "Based on your travel experience, please give your evaluation of the following content of the attraction (please fill in any number

within 0~5, no more than two decimal places)". The statistical results are as follows:

Table 1. Evaluation results of rural eco-tourism attractions in Nanchang city

	Max	Median	Mode	Average	Min
Ecosystem	5.00	3.65	3.80	3.54	2.20
Infrastructure	5.00	4.32	4.32	4.32	3.02
Folk Culture	5.00	3.45	3.60	3.43	2.53
Service Level	5.00	3.10	2.8	3.5	1.67

As shown in Table 1, the evaluation results of tourists on the ecological environment and folk culture in rural Eco-tourism in Nanchang are: average<median<mode, indicating that the data shows a left-skewed distribution; the evaluation results for infrastructure are: average Number=median=mode, indicating that the data presents a symmetrical distribution; the evaluation result of the service level is: mean>median>mode, indicating that the data presents a right-skewed distribution.

4.1.Evaluation and Analysis of Eco-Environmental Tourist Evaluation of Rural Eco-Tourism in Nanchang

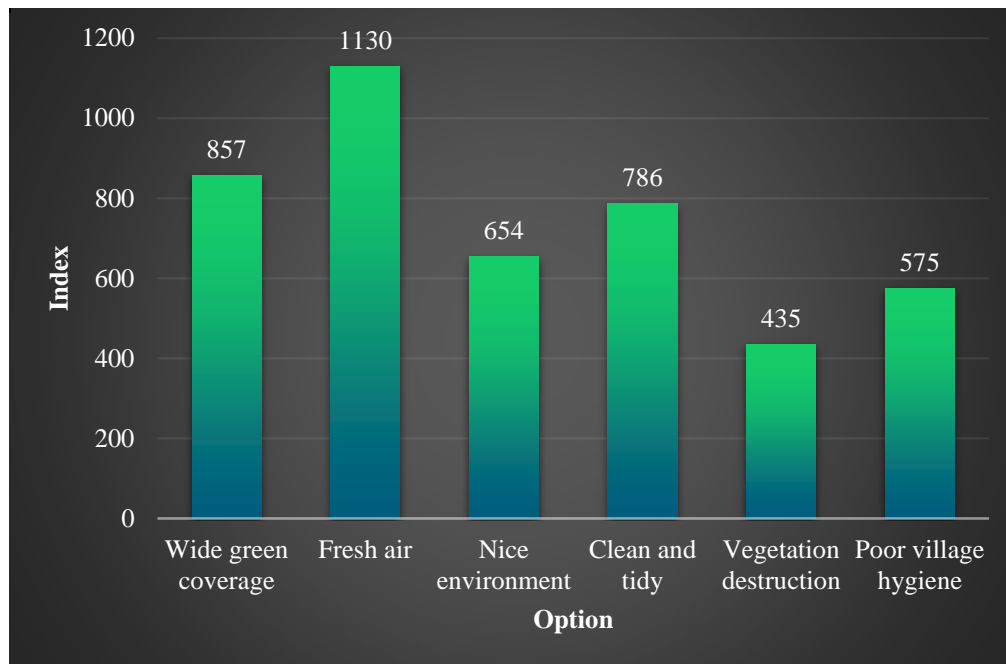


Figure 1. Tourists' evaluation on ecological environment of rural eco-tourism in Nanchang city

As shown in Figure 1, tourists' evaluation of the ecological environment of rural ecotourism in Nanchang is clean air, with 1,130 records; although the evaluation of vegetation damage is the least, with 435 records, the proportion is 35.20%, indicating that Nanchang City the problem of vegetation destruction in rural Eco-tourism attractions not only exists, but will also become a difficulty that must be overcome in the development of rural Eco-tourism in Nanchang.

4.2. Evaluation and Analysis of Rural Eco-Tourism and Folk Culture Tourists in Nanchang

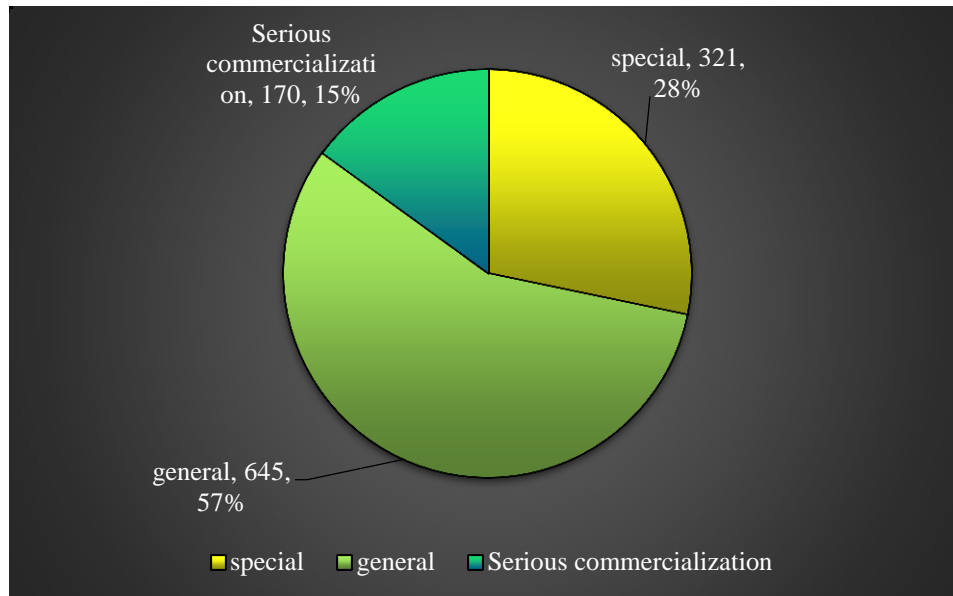


Figure 2. Tourists in rural eco-tourism and folk culture in Nanchang city

As shown in Figure 2, the survey results of folk culture in rural Eco-tourism in Nanchang showed that 321 tourists said they were very distinctive, accounting for 28% of the total; 645 tourists said that the performance of folk culture was average, accounting for 57% of the total ; 150 tourists said that the commercialization of folk culture is too serious, accounting for 15% of the total;

5. Conclusion

Strengthening the in-depth development of rural Eco-tourism can start from the government, tourism developers and other aspects to create good environmental conditions for the development of rural Eco-tourism. Establish a rural ecological environment protection fund and implement the fund to improve the public infrastructure and service facilities of scenic spots and tourist areas, and at the same time, it is necessary to ensure the rights and interests of farmers. Governments, enterprises, organizations, and individuals should all pay attention to the environment. The establishment of the fund should have a certain degree of public welfare and be used for the basic living security, medical insurance, and endowment insurance of these farmers, so as to ensure that the fund can truly benefit the community residents of rural Eco-tourism destinations.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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