

# *Environmental Problems and Sustainable Management Strategy of Rural Tourism in China*

**Ying Guo, Ping Wang, Dongliang Zhang\***

*College of Land Resources and Environment, Jiangxi Agricultural University, Nanchang 330045, China*

*\*corresponding author*

**Keywords:** Rural Tourism, Environmental Pollution, Sustainable Management

**Abstract:** Rural tourism development and environmental protection are interrelated and promote each other. In developing and utilizing rural tourism ecological resources, we must attach great importance to environmental protection. This paper analyzes the pollution problems of air, water, and solid waste in rural tourism development in China. It puts forward countermeasures and suggestions for the sustainable management of the rural tourism environment to promote the sustainable development of rural tourism.

## **1. Introduction**

In recent years, an increasing number of Chinese urban residents have gone to the countryside for leisure and vacation to seek a slower pace of life than in the city. Compared with traditional vacation tourism, the main characteristic of this phenomenon is that rural tourism and life promote the integration between urban and rural areas [1]. Rural tourism has become one of the primary economic sources in many rural areas. Among the different types of tourism, rural tourism has grown in recent decades [2]. However, with the increase in passenger flow and the improvement of economic benefits, the ecological environment pressure on rural tourist destinations is increasing, air quality is decreasing, water pollution is increasing, and solid waste is increasing. Improper handling of environmental problems will seriously affect the rural ecological environment and human landscape.

How to correctly handle the relationship between rural tourism development and rural ecological environment protection has aroused widespread concern and discussion in academia and industry [3]. This study tries to analyze the main environmental problems faced by rural tourism in China and their causes and puts forward some countermeasures and suggestions for the sustainable management of the rural tourism environment.

## **2. Relationship between Rural Tourism Development and Environmental Protection**

### **2.1. A Good Ecological Environment is The Basis for The Development of Rural Tourism**

The advantage of the development of rural tourism is the beautiful natural ecological environment. Rural areas have beautiful natural scenery and a humanistic ecological landscape that most cities do not have. The rational development of rural tourism can promote local economic development,

increase farmers' income and achieve the development goal of ecological civilization construction in our country. Therefore, the development of rural tourism and the protection of the ecological environment belong to the mutual promotion relationship. While protecting the development and utilization of the ecological environment, it can also promote the sustainable development of rural tourism [4], help society create more economic benefits, attract more Chinese and foreign tourists, and urge them to experience and enjoy the charm of natural scenery.

## **2.2. The Moderate Development of Rural Tourism is Conducive to The Protection of The Local Environment**

Through the scientific development and utilization of rural tourism resources, we can increase local economic benefits, promote investment in more funds for rural ecological and environmental protection, realize the construction of rural ecological civilization, and improve rural environmental protection. Strengthening rural environmental protection work is conducive to cultivating the environmental protection awareness of rural residents and tourists and reducing rural tourism development on the damage and pollution level of the environment.

## **3. The Main Environmental Problems and Their Causes in the Development of Rural Tourism in China**

### **3.1. Main Environmental Issues Faced by China Rural Tourism Development**

As mentioned above, an excellent ecological environment is an essential basis for rural tourism development and a key factor in attracting urban residents to rural tourism, which is directly related to the social and economic benefits of rural tourism development and construction [5]. In a certain sense, it is an important rural tourism resource. However, with the rapid growth of rural tourism in China, most rural tourism destinations have the problem of ecological environment destruction to varying degrees, and some places are even more serious, mainly manifested in the following aspects:

#### **3.1.1. Rural Air Pollution**

The reason why most tourists choose rural tourism is not only that they can experience the leisure and entertainment life in the countryside but also that they can stay away from the haze of the city and breathe fresh air when they come to the countryside. However, with the continuous development of rural tourism in recent years, the problem of rural air pollution has gradually emerged. Every tourist season, a large number of tourists will drive into the countryside. Each rural tourist spot will gather many vehicles, atmospheric CO, CO<sub>2</sub>, NO<sub>x</sub>, hydrocarbons and lead compounds, and other substance contents will increase significantly, leading to a decline in atmospheric environmental quality (Figure. 1). In addition, some rural tourist spots will prepare bonfire parties and open-air barbecues for tourists, which will undoubtedly cause air pollution. If this goes on in the long run, the air quality in rural areas will decline, and rural tourism, which aims to develop green, ecological, and pollution-free tourism, will be affected.

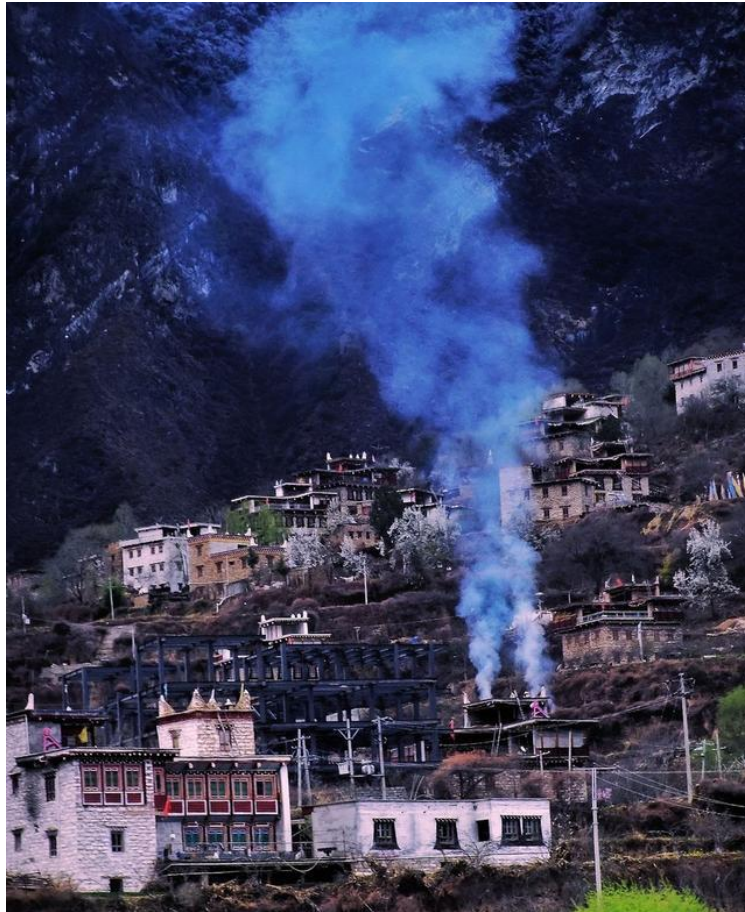


Figure 1: Rural air pollution

### 3.1.2. Rural Water Pollution

In rural areas, tourism activities based on water resources include beauty, fishing, boating, etc., and water quality is a key factor affecting such tourism activities. With the influx of a large number of rural tourists, domestic sewage has increased sharply. However, due to the relatively weak infrastructure in most rural areas, few rural areas have a perfect sewage pipe network system, leading to a large amount of domestic sewage being directly discharged without treatment [6, 7]. Some infiltrate into the soil and pollute groundwater quality; some flow into nearby rivers along with low-lying areas, resulting in eutrophication of water bodies, affecting the growth of aquatic organisms, damaging water quality, and, to a certain extent, influencing the development of rural tourism (Figure 2). This is especially true for leisure and entertainment projects to develop water resources, such as water amusement parks, fishing, and boating. Once water resources are damaged, these projects will not be carried out, and later restoration projects will cause significant economic losses [8].



Figure 2: Rural water pollution

### 3.1.3. Rural Solid Waste Pollution

The rapid development of tourism activities is also accompanied by a rapid increase in the amount of domestic garbage [9, 10]. The United Nations Environment Programme calls on people to pay attention to the domestic waste generated by tourism. It is estimated that international tourism alone produces 4.8 million tons of global domestic waste, accounting for approximately 14% of the total domestic waste in the year [11]. The amount of domestic waste produced by tourists per capita may be twice that of residents [12]. Especially in the tourist peak season of the year, a large amount of waste is generated in tourist accommodations and catering places, and the management of domestic garbage becomes a severe challenge. In most cases, waste from rural tourism sites ends up in landfills and open dumps, disrupting the surrounding community and visitor experience through odors, leachate, and flies (Figure 3).



Figure 3: Rural solid waste pollution

## **3.2. Analysis of the Causes of Environmental Problems of Rural Tourism in China**

### **3.2.1. Rural Tourism Lack of Science Planning**

China's rural tourism originated from "farmhouse happiness," mainly from the spontaneous actions of local farmers. Since the 1990s, with the vigorous promotion and active promotion of the government, rural tourism projects have been similar to spring bamboo shoots worldwide. However, due to the lack of necessary normative constraints and regulatory measures, some rural tourism operators lack the concept of ecological management, pursue short-term economic benefits, and develop rural tourism improperly, resulting in severe constructive and operational damage. Behaviors such as deforestation, overscale reception of tourists, random disposal of garbage, and indiscriminate discharge of domestic sewage have undoubtedly negatively impacted the rural ecological environment.

### **3.2.2. The Weak Environmental Infrastructure in the Rural Tourism Area**

At present, in the development of rural tourism, the construction of rural environmental infrastructure lags. Coal-burning and firewood burning still exist in vast rural areas. There is a lack of infrastructure for pollutant recovery and treatment, resulting in a low degree of harmless human and livestock manure treatment. Domestic sewage, solid waste, and waste gas are directly discharged into streams, soil, and the atmosphere without proper treatment, resulting in water quality decline, soil environmental pollution, and harmful air substances increasing, which brings severe challenges to rural tourism ecological environment governance.

### **3.2.3. The Environmental Awareness of Rural Tourism-Related Public is Weak**

On the whole, the overall level of people's environmental awareness is still not high. In the first survey of ecological civilization consciousness in China, it was found that the public's overall recognition, awareness, and practice of civil civilization showed the characteristics of "low cognition and insufficient practice." More than 30 million rural tourism teams enter the vast countryside in China every year, which has already formed a considerable challenge to the rural ecological environment. However, a significant portion of tourists has weak awareness of the environment and uncivilized tourism behavior, which further aggravates the damage to the rural setting. For example, some tourists plunder flowers, seedlings, and fungi, resulting in changes in the composition of rustic biological species. Some tourists throw rubbish about, which pollutes the water and soil, such as streams, lakes, ponds, and underground water.

### **3.2.4. Rural Tourism Environment Protection Lack of Institutional Guarantees**

With the rapid development of rural tourism, there has been a large change in rural industrial structure, and there is a new issue in rural ecological environments and the current laws and regulations on rural ecological environment protection. Not perfectly, environmental protection standards cannot fully adapt to the needs of rural tourism development, especially in the field of rural water, atmospheric, soil environmental protection, and pollution control. There is also a lack of legislation, resulting in rural ecological environmental protection law enforcement lacking necessary laws. At the same time, the penalties for rural ecological environment laws and regulations are weak, there is a lack of mandatory means, and it is difficult to form a glimpse of rural ecological environmental violations.

## **4. The Strategy of Sustainable Management of Rural Tourism Environment**

### **4.1. Develop Rural Tourism Development Plans According to Local Conditions**

To develop rural tourism, it is necessary to do an excellent job of planning. While paying attention to the development of tourism resources and increasing economic benefits, environmental protection strategies should be included in the whole planning process. The development and construction of rural tourist attractions should consider the environmental protection of resources, coordinate and synchronize development, and stipulate that the environmental impact assessment must be carried out for the newly developed tourist areas and the newly built projects in the tourist areas. The overall development plan of tourism should include the content of environmental protection and then clarify the objective of environmental protection. Regional rural tourism development planning and environmental protection planning should be formulated, and the actual development and management should be guided by them. The necessary environmental assessment and monitoring should be carried out, and the environmental quality index database of tourist areas (spots) should be established to make environmental protection standardized and scientific.

### **4.2. Strengthen Environmental Infrastructure Construction**

Infrastructure is related to the effect of rural tourism environmental protection work. Strengthening the construction of rural bicycle lanes helps people reduce the use of cars to build automobile exhaust emissions. Encouraging the use of clean energy in rural tourism areas can also reduce household exhaust emissions. Enterprises with better conditions can install sewage treatment equipment, which will increase the cost but can use the treated wastewater for landscape water and increase the utilization rate of water resources. For some self-employed households with weak economic strength, the government should give them financial help, install the sewage pipe network system as far as possible, collect the wastewater uniformly, and transport it to the sewage treatment plant for centralized treatment. At the same time, it should also increase the number of trash cans, ensuring that the garbage of tourists is placed, and villages with more garbage production should establish an efficient transportation and transit system.

### **4.3. Improving Public Tourism Environmental Protection Awareness**

At present, China's vast number of tourists and tourists' ecological environment awareness is weak, and they must pay attention to the popularization and education of ecological civilization. Tourism Environment Protection As a systematic project, all participation of government departments, management departments, local villagers, and tourists is needed. Therefore, it is necessary to improve the tourism environmental protection of all people and even immigrants through legal concept education, comprehensive concept education, and long-term concept education, which is important for the sustainable tourism industry. Through promotion and education, they help them establish the correct ecological civilization concept to correct people and nature, learn to respect nature, respect nature, and naturally form a consciousness of the ecological, save resources, and protect the ecological environment. This behavior reflects the value orientation, conscious constraints, and standardized behavior of an ecological civilization. It is necessary to comprehensively improve the environmental and cultural literacy of rural tourism operators and tourists, stimulate their love for nature and traditional culture, establish correct ecological ethics, create an excellent environment protection atmosphere, and spread the concept of ecological civilization.

#### 4.4. Improve the Supervision and Punishment Mechanism and Participation Mechanism

In rural tourism development, we must maximize the quality and efficiency of the ecological environment, and we must effectively construct a sound evaluation index system for rural tourism ecological civilization construction. The local government departments should continuously strengthen the supervision and management of various rural tourist attractions, strictly implement the relevant reward and punishment measures, and conduct regular inspection, evaluation, and assessment of the ecological environment protection and management of scenic spots. For rural tourist attractions with outstanding performance, appropriate rewards and praises should be given. For scenic spots with poor performance, the relevant government departments should urge them to rectify, and for those scenic spots, the government's relevant departments must take severe punishment measures to ensure they need to recognize the need for environmental protection. As a public welfare behavior project, the government departments must prompt each villager to actively participate in ecological environmental protection work. From tourism project development, it is necessary to actively improve the participation mechanism to help local villagers resolve various employment and survival issues so that the enthusiasm and initiative of villagers participate in ecological environmental protection work.

#### 5. Conclusion

With the improvement of urbanization and people's living standards in China, an increasing number of residents travel to rural areas. On the one hand, the beautiful natural environment in rural areas is the foundation of rural tourism; on the other hand, the reasonable development of rural tourism is also conducive to protecting the rural environment. Improper development of rural tourism has brought air, water, and solid waste pollution to rural areas. The sustainable management of the rural tourism environment needs to formulate rural tourism development plans according to local conditions, appropriately increase investment in rural tourism ecological environment protection, and strengthen environmental infrastructure construction. At the same time, it needs the active participation of the general public, government departments, and tourism developers. Everyone must raise their awareness of environmental protection and correctly recognize the importance of protecting the environment. Scenic area managers should standardize and guide tourists' civilized behaviors and end all kinds of uncivilized behaviors not to cause environmental pollution and damage. To improve the enthusiasm of people and tourism developers to participate in environmental construction, government departments can take a series of incentive measures. Only in this way can rural tourism achieve sustainable development.

#### Acknowledgments

This work was funded by the Research Project of National Soft Scientific Research Project (2020QRK012); Jiangxi University Humanities Social Science (JC18216, GL19130); and Jiangxi Provincial Department of Education Science and Technology Project (GJJ190207).

#### References

- [1] Cheng Hao, Yang Zhao, Liu Shi-Jie. *Rural stay: a new type of rural tourism in China. Journal of travel & tourism marketing*, 2020, 37(6):711-726.
- [2] Gao Jing, Wu Bihu. *Revitalizing traditional villages through rural tourism: A case study of Yuanjia Village, Shaanxi Province, China. Tourism management (1982)*, 2017, 63:223-233.
- [3] Shen Ching-Cheng, Chang Yen-Rung, Liu Der-Jen. *Rural Tourism and Environmental Sustainability—A Study on a Model for Assessing the Developmental Potential of Organic Agritourism. Sustainability*, 2020, 12(22):9642.

- [4] Xu Li, Cao Shitu, Liu Decai. *Discussion on the integrated development of rural tourism development and ecological civilization construction*. *Geography and Geographic Information Science*, 2017, 33(06):106-111.
- [5] Tang Boyan. *A Study on Harmonious Rural Tourism Environment under the Construction of the Socialism New Rural*. *E3S Web of Conferences*, 2021,235.
- [6] Dai Lixia. *Discussion on Legal Supervision System of Rural Tourism Environmental Protection -- Taking Hainan as an Example*. *Agricultural economy*, 2017(09):38-40.
- [7] Liu Jun. *Harmonious Development of Rural Tourism and Natural Ecological Environment Protection*. *Cooperative Economy and Science and Technology*, 2014(20):6-7.
- [8] Yao Junhong. *Rural Tourism Industry Agglomeration and the Development of Farmhouse Catering Industry*. *Agricultural Economy*, 2018(11):50-52.
- [9] Taşeli Başak K. *The impact of the European Landfill Directive on waste management strategy and current legislation in Turkey's Specially Protected Areas*. *Resources, conservation and recycling*, 2007, 52(1):119-135.
- [10] Jiang Jianguo, Lou Zhiying, Ng Silo, et al. *The current municipal solid waste management situation in Tibet*. *Waste management*, 2009, 29(3):1186-1191.
- [11] Crompton R. *United Nations Environment Programme, Annual Report*. [2022-3-5]. <https://wedocs.unep.org/bitstream/handle/20.500.11822/8053/-UNEP%202011%20Annual%20Report-20121086.pdf?sequence=5&isAllowed=y>.
- [12] *Environmental, Health, and Safety Guidelines*. [2022-3-5]. [https://www.ifc.org/wps/wcm/connect/Topics\\_Ext\\_Content/IFC\\_External\\_Corporate\\_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/EHSGuidelines](https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Policies-Standards/EHS-Guidelines/EHSGuidelines).