

Development and Utilization of Rural Tourism Environment in Crop Production Areas under the Background of Intelligent Tourism

Jing Yang*

Nanning Normal University, Nanjing, China

**corresponding author*

Keywords: Smart Travel, Crop Production Area, Rural Tourism, Tourism Environment Development

Abstract: "Intelligent tourism" is a kind of application of Internet of Things, cloud computing, next-generation communication network, high-performance information processing, intelligent data mining and other technologies in tourism experience, industrial development, administrative management, etc., to make tourism physical resources and information resources. It is a new future-oriented tourism form that is highly systematically integrated and deeply developed and activated, and serves the public, enterprises, and governments. At present, rural tourism is developing rapidly in the world. It is an emerging industry that combines agriculture and tourism, and tourism is based on agriculture. It not only effectively uses agricultural resources and tourism resources, but also can coordinate two major industries. Contradictions with the environment. Aiming at the development situation of tourism environment in agricultural areas, starting from the background conditions of agricultural areas, local characteristics, mainstream social needs and the actual tourism economic projects that can be developed, this paper has carried out related investigations and studies in a certain crop production area. The research in this paper shows that the structure ratio of the primary industry where the crop production area is located is 22.6% and the GDP growth rate is 6.5%; the structure ratio of the secondary industry is 40.3% and the GDP growth rate is 17.5%; the tertiary industry The proportion of the structure is 30.6%, and the GDP growth rate is 12.3%; the rural GDP is 3.5658 million yuan, the total output value of agriculture, forestry, animal husbandry and fishery is 2.9344 million yuan, the total number of farmers is 103.25 million yuan, the total population is 293.56 million, and the primary industry The employed population is 108.52 million, and the per capita net income of farmers is 12456.3 yuan; the development of standardized and large-scale agricultural tourism projects conforms to the development trend of tourism projects. In the current relatively depressed tourism economy, intelligent tourism can coalesce the people's popular tourism resources and give new development to tourism in agricultural areas.

1. Introduction

Intelligent tourism is composed of three major contents: intelligent marketing, intelligent service and intelligent management. With tourists as the center, with the help of portable terminal Internet devices, it can actively perceive tourism-related information, and arrange and adjust tourism plans in a timely manner. It is applied to tourists' travel and administrative management. In many other aspects, it brings convenience for tourists to travel, improves efficiency for government or enterprise managers, enhances the autonomy of tourists in tourism, and creates greater value for tourism enterprises." In today's rural China, the tourism industry has been greatly developed. Many units operating tourism projects in rural areas, even if they are clearly aware that leisure agriculture can create favorable conditions for rural development, but the products introduced are not novel and human. Related experts and scholars have conducted in-depth discussions on this on different levels. Most people have focused their attention on the formation of tourism, the means of operation and the protection of natural ecology; aiming at the current operation of rural tourism There are related theories and practical achievements in the situation and the defects exposed, but there are not many studies on the development and development of rural tourism based on the multi-functional perspective of the agricultural environment.

The development of multi-functional agricultural environment is inseparable from rural tourism. Rural tourism is the best carrier of multi-functional agricultural environment. Multi-functional agricultural environment is the soul of rural tourism. Rural tourism should regain its permanent appeal and become a return to simplicity 1. The destination of nostalgia must be based on the practice of the multi-functional development path of the agricultural environment, and implement sustainable development. While developing the rural economy, we must pay more attention to protecting and improving the rural ecological environment and human environment. The unique charm of rural idyllic scenery promotes the joint development of a multi-functional agricultural environment and rural tourism. In this process, people not only need to use rural tourism in agricultural areas to drive rural economic revitalization. At the same time, people also need to continuously protect the rural tourism environment to achieve sustainable rural development.

P.Ruzic et al studied the tourism consumption of Istrian rural tourism, and then analyzed its impact on the rural economy. The starting point was to assume that the impact of tourism consumption in many sectors and activities doubled, thereby promoting Istria[1]. Awang et al took Saba Kung Mong Cave as a research object to discuss the characteristics suitable for the sustainable development of rural tourism; the rise of consumption-driven tourism has spawned various forms of tourism represented by rural tourism. Capitalization of resources has made positive contributions to the tourism industry and related communities. Under the impetus of in-depth interviews and observations, qualitative methods have guided this research. The research results of Awang et al. Indicate that Gongmangdong provides potentially wonderful rural tourism activities. However, the practice of extracting original resources, such as bird's nest, may not be consistent with the concept of sustainable development [2]. Gholamreza Janbaz Ghobadi and others used descriptive analysis methods to explore the environmental effects of Nusa 's tourism development and discussed aspects and indicators that affect sustainable development from the perspective of environmental factors. In addition, the data was collected through documents, libraries, and field methods. The population under study included people living in Nusa al and tourists living in Nusa al; the study sample included 380 families and 384 tourists. They were through Cochran. The formula is selected, and the collected data is used for descriptive and inferential statistical analysis, including t test [3].

This article mainly conducts related investigation and research on the crop production areas selected in this article, and excavates and combs the rural tourism environment from the perspective of the multifunctional agricultural environment, looking for a new way to develop the cultural

characteristics of the rural tourism environment, in order to increase the rural tourism The cultural connotation provides a useful reference for the sustainable development of rural tourism and contributes a small amount to enriching people's growing spiritual and cultural life needs.

2. Theoretical Review

2.1. Tourism Definition and Research Status of Agricultural Areas

(1) Definition of tourism in agricultural areas

Tourism in farming areas is mainly characterized by excellent scenery and unique folk customs and culture in the crop production environment. It promotes urban tourists and provides them with tourism, accommodation and consumption activities. For the leisure proposed by academia Agriculture and related rural ecotourism activities can be regarded as the category of tourism in agricultural areas [4].

(2) Research status

1) Tourism in traditional sightseeing farming area

Sightseeing farming area tourism is characterized by the freshness of the production process. By opening the fruit and vegetable gardens or flower production bases around the city, tourists can participate in labor activities including picking, planting, and viewing in the garden to obtain beautiful sightseeing.

2) Leisure and vacation farming area tourism

Leisure and holiday tourist places are usually farming areas such as forest farms and fruit and vegetable planting bases. Tourists are attracted by developing farming activities and appreciation of natural scenery. Tourists can enjoy spiritual relaxation and satisfaction by performing leisure activities such as fishing and eating in the place [5].

2.2. Dynamic System of Rural Tourism Development

Rural tourism has huge development potential, which is determined by its own characteristics. Throughout the development process and management practice of rural tourism at home and abroad, it is not difficult to find that the sustainable and healthy development of rural tourism must be driven by many factors. In-depth understanding and evaluation of the driving factors of rural tourism development can help us To properly grasp the industrial development laws of rural tourism, these elements are combined to form a dynamic system of rural tourism development. The driving factors include: market demand, rural resources, environmental context, marketing planning [6].

(1) Market demand constitutes the demand system of rural tourism

The development of rural tourism in our country is developed under the stimulus of huge social demand. Rural tourism is rising and developing under the "push" of tourists. China's rural tourism market has strong demand and huge development potential. The high demand is closely related to China's economic development. China's industrialization and urbanization process is rapid, and the urban population has grown tremendously, especially in the economically developed regions. The income of urban residents has increased substantially, living standards have improved, and residents' tourism consumption patterns have also changed. Tourism has become a part of the lives of urban residents. The pressure of urban life and the alienation of the natural ecological environment make urban residents have the desire to "escape temporarily" from the monotonous and repeated urban life. Under the pressure of fast-paced city life, people are eager to find a paradise to empty themselves. Rural tourism not only meets the actual needs of people, but also satisfies the desire to release pressure and get close to nature. Therefore, rural tourism has gradually become an economical and convenient choice for urban residents to travel for leisure and vacation.

(2) Rural resources constitute the gravity system of rural tourism

Rural resources are mainly the elements of "quotation", so the gravity of rural tourism is mainly composed of comprehensive resources in rural areas, that is, rural tourism resources. It is the core and unique selling point of the overall promotion of rural tourism. Relying on the beautiful rural natural environment, showing the rich rural customs and reflecting the true rural life are the basic conditions for the development of rural tourism and the fundamental requirements for the development of rural tourism products. [7] .

(3) The environmental background constitutes the supporting system of rural tourism

The rural tourism support system is the environmental background of rural tourism. It is the unification of rural society, economy, culture and natural environment. The large environment has a strong auxiliary role in the creation of tourism attraction, and has a role in promoting or restricting the production and supply of rural tourism products. At the same time, it has a profound impact on tourism decision-making behavior and the quality of tourism activities. The main body of the support system is the government department and the government. It plays a leading, standardizing, and supervising role in the development of rural tourism. Creating a good environmental background for rural tourism is the basic condition for the benign development of rural tourism. The government's policy and administrative power can be effective for all development interests in development. Communication and cooperation, such as creating a good ecological environment in rural areas, not only provides the environment for the existence of tourist attractions, but also an element of attraction. Therefore, the ecological environment itself is an attraction and an environmental support element for the development of rural tourism [8] .

(4) Marketing planning constitutes an intermediary system for rural tourism

The rural tourism intermediary system is an intermediate link between rural tourism products and tourism consumption. It plays a role of coal intermediary in the circulation of products and information between products and markets. The rural tourism intermediary system is composed of various media, promotional materials, travel agencies, and tourism transportation, including various media for the promotion of rural tourism and the production of various promotional materials, travel agencies promoting rural tourism destinations and participating in organized tourism, transportation department liaison The movement of people between tourist and tourist destinations. In addition, the rural tourism service centers established in some rural tourism destinations are of the nature of mass organizations or industry organizations, and are functionally divided. They are also a part of the rural tourism intermediary system. The traditional concept believes that individual tourism is the most important market for rural tourism. Share, and the travel agency has nothing to do with it. In fact, it is not. In terms of information communication, the marketing power of rural tourism developers and operators is slightly thinner in the actual development situation. Cooperation with the main body within the intermediary system can expand the countryside.

2.3. Composition of Rural Tourism Resources

The rural landscape that can be used by tourism is a cultural landscape that combines human culture and natural environment based on natural environment and dominated by human landscape. It is composed of natural tourism resources, tangible human tourism resources and intangible human tourism resources[9].

(1) Rural natural tourism resources

Landform, climate, hydrology, soil, and biology are the elements that make up the natural environment. The combination of different elements constitutes the base and background of the rural landscape. The elements of the natural environment play different roles in the formation of rural landscapes. The geomorphic conditions play a decisive role in the macro appearance of rural

landscapes. The elevation and the fluctuation of terrain determine the types of rural landscapes, such as the water towns in the Jiangnan Plain Landscapes, terraced landscapes in western mountainous areas, etc; geomorphic conditions often restrict the use and development of resources in some areas, thus affecting the social economy and people's living conditions in rural areas, forming rural landscapes with different levels of economic development; It also plays a huge role in rural landscapes, affecting the distribution of animals and plants, land types, farming systems and residential types; hydrological conditions also affect agricultural types, water and land transportation, settlement layout, etc.; soil conditions directly affect the layout of agricultural production; , Especially plants, is an important factor in the formation of rural landscapes. Different biological landscapes have formed distinctive forest landscapes, farmland landscapes, grassland landscapes, etc., and different animal populations have formed different landscapes such as pastures, fishing grounds, and feedlots.

(2) Rural tangible cultural tourism landscape

On the basis of the natural environment, people have created a rural landscape in harmony with the local natural environment and with local characteristics. The external characteristics and internal structure of the rural tourism resources are all branded with the natural environment; the tangible elements are the specific phenomena observed by the tourists in the rural tourism resources, such as crops, livestock, forest trees, settlements, transportation, characters, clothing, etc. The different composition of these elements has formed the external characteristics of different rural landscapes, such as the paddy field ecological zone, green ecological courtyard, fish pond ecological zone, organic vegetable planting base, and mulberry ecological zone constitute the unique landscape of the ecological new village. Rural material production is the most basic component of rural tourism resources, which can form different types of rural tourism resources, such as rural scenery, grassland pastures, fishing area scenery, forestry landscapes, suburban agricultural landscapes, etc. The architecture of a region is a product of the combined effects of the natural environment and human environment of the region. From the aspects of construction materials, house type, settlement scale, layout, function, etc., it can not only reflect the geology, landform, climate, hydrology, biology, etc. Natural conditions; can also reflect the economic conditions, national culture, population density, land use conditions, living habits and other social and economic conditions [10].

(3) Rural intangible cultural tourism resources

Rural tourism resources also have some intangible intangible components that cannot be perceived by people directly through the senses, such as people's ideology, moral sentiment, values, psychological characteristics, ways of thinking, national character, customs, religious beliefs, political views, etc. Although these things are intangible, they are the soul and essence of rural tourism resources; only when they appreciate the appearance and characteristics of rural tourism resources and taste their deep cultural connotation can they truly appreciate the taste and blend of scenes.

2.4. Characteristics of Rural Tourism Resources

Rural tourism resources are part of tourism resources. On the basis of satisfying the basic characteristics of tourism resources, they present the following characteristics:

(1) Comprehensive

Rural tourism resources are comprehensive resources, which are both endowed by nature and left over from human history; there are both visible natural scenery, historical objects, and sensible customs and folk feelings [11].

(2) Regional

Rural tourism resources are always distributed in a certain rural area, and adapt to the natural environment, social historical conditions, ethnic characteristics of the area, etc., so as to form a unique landscape in various places.

(3) Social times

The rural cultural landscape is the product of a certain historical period, which deeply reflects the characteristics of the times. With the progress of society, the development of science and technology, and the exchange of culture, the rural landscape will also change accordingly. Some elements that reflect the characteristics of the new era will also be combined with the original resources of the village to form an innovative new era rural landscape. Therefore, on one hand, the rural landscape can lead us to trace the long river of history, on the other hand, it can also guide us to understand the development of modern agriculture.

(4) Vulnerability

The rural ecological environment is a more complex ecological system composed of natural ecosystems and social systems, and is quite fragile. Once destroyed, it is more difficult to recover; the rural ecological environment is the objective environment of tourism activities, and is also the basis for the survival of farmers.

2.5. Promotion of Agricultural Multi-Function on Rural Tourism Development

(1) Give full play to the economic function of agricultural multi-functionality and provide an economic foundation for rural tourism development. The current problems that China urgently needs to solve include: vigorously develop agriculture, create a large number of jobs, absorb surplus rural labor, increase farmers' income, and strive to improve rural living standard of the people, with the help of the development of rural tourism, has benefited the rural people, forming a huge industry driven by the rural economy and scenic spots. According to the notice of relevant documents issued jointly by the Ministry of Agriculture and the Tourism Bureau of China, China needs to give play to the relative advantages of the two industries of agriculture and tourism, to include rural tourism within the scope of important work, and to establish relevant institutions to implement the division of labor responsibility system. The development of rural tourism provides necessary financial support and policy guarantees. In rural infrastructure construction, we must vigorously promote rural tourism development projects and various agricultural support projects, improve the ability of rural tourism projects to guide business, open up a wider rural tourism space, and attract people at different levels at home and abroad. Demand to promote the rapid development of rural tourism.

(2) Bring into play the multi-functional cultural and educational function of agriculture, reserve talents for rural tourism development. The rural population accounts for the vast majority of China's population, exert its cultural and educational function, strengthen the popularization of cultural and educational undertakings, and enable China to complete its mission from a country with a large agricultural population. The transformation of a large country of human resources also needs to improve the overall quality of the rural tourism talent team. This requires the government to vigorously increase the investment in rural education, vigorously improve the geographical and cultural environment of rural tourism development, enhance agricultural technology development capabilities and business promotion capabilities, and promote the transformation of scientific and technological technologies in the agricultural industry into agricultural productivity drives the further promotion of rural tourism.

(3) Give play to the agricultural multi-functional ecological protection function, promote the sustainable development of rural tourism, fully develop the agricultural multi-functional ecological function, and vigorously promote the combination of rural tourism and improved ecological

environment. The basic guarantee of rural tourism is the need for a better ecological environment, which is also an important prerequisite for ensuring the sustainable development of rural tourism. It is necessary to combine the protection of the local ecological environment and the comprehensive development of local environmental resources. At the same time, during the development of rural tourism, It is necessary to vigorously popularize the construction of rural ecological and environmental protection infrastructure, such as environmental protection and comprehensive waste management, to realize the full implementation of the “three clears and five reforms” in rural areas, so that the comprehensive development of rural tourism and the humane and natural environment, and the implementation of agricultural and rural tourism Sustained development strategy to promote sound and rapid development of rural tourism.

2.6. Connection between Rural Tourism Development and Ecological Environment

(1) The significant link between rural tourism development and the ecological environment lies in their mutual promotion. A good ecological environment is the prerequisite and guarantee for the development of rural tourism. This is also the reason why the current rural tourism industry can develop rapidly. Only when the original ecological environment is maintained can tourists enjoy rural tourism, and for the local characteristics of the countryside The protection of the human environment of the folk culture also provides advantages for the development of rural tourism. Similarly, the development and development of rural tourism should also protect the ecological environment and improve the ecological environment to a certain extent. During the development process, as the economic benefits continue to increase, people's awareness of environmental protection has gradually increased, from passive acceptance to Subjective intentions, people protect and actively improve the ecological environment, so that more tourists can be attracted to the tourism consumption, a virtuous circle and coordinated development can promote the sustainable development of rural tourism.

(2) There is also a mutually restrictive relationship between rural tourism development and the ecological environment. The development of rural tourism and the coordinated development of the ecological environment will only achieve a virtuous circle for a long time if they are promoted together. The blind focus on the economic benefits of rural tourism without paying attention to ecological environmental protection will inevitably lead to the decline of the rural tourism industry. In the actual rural tourism, excessive concentration of travel time often occurs. In the peak season, the surge of tourists generates a lot of domestic garbage and pollutants in tourist attractions, causing various degrees of pollution to the ecological environment. In the process of tourism development projects, due to excessive pursuit of economic benefits, failure to pay attention to the protection of the ecological environment in a timely manner will cause a certain degree of damage to the surrounding original ecological environment. If you want to restore the original appearance, it not only requires a lot of resources, but it is not an overnight matter, so it is not attractive to tourists and it is difficult to support the sustainable development of rural tourism [12].

2.7. Countermeasures for Coordinated Development of Rural Tourism Development and Environmental Protection

(1) Relevant government departments carry out macro-controls and introduce ecological protection systems or regulations related to rural tourism. Rural tourism scenic spots in various regions should carry out research work in advance, and carry out accurate statistics on the travel time, number of people and generated waste pollutants, so as to have an overall understanding of the tourism environment in different regions, so as to make a reasonable and scientific prediction of environmental effects And take preventive and protective measures in advance, so that the rural

tourism economy and environmental protection work together.

(2) Environmental awareness is the fundamental guarantee for the development of rural tourism. The general public and tourists are direct participants in rural tourism, strengthen rural ecological environmental protection awareness, strengthen environmental protection education, improve the public's own quality, set up waste deposits around the scenic area and post environmental protection slogans, so that tourists deeply understand the good The importance of the ecological environment for the development of rural tourism.

(3) The coordinated development of rural tourism development and environmental protection is inseparable from science and technology. In view of the various environmental pollution problems that occur in rural tourism areas, timely and reasonable solutions are needed to ensure the development of rural tourism. Therefore, the development of rural tourism should first focus on scientific management and reasonable planning, and carry out other tourism projects on the premise of environmental protection [13].

2.8. The concept of "smart tourism"

"Smart Tourism" is a brand new proposition. "Smart Tourism" is developed on the basis of "Smart City". It is one of the theme applications of "Smart City". It is also an advanced stage of digital tourism development. Through digitization and networking, it is possible to communicate and communicate conveniently, feel convenience and safety, improve tourism satisfaction and happiness, and realize new needs in the future. For example, Suzhou is building a smart tourism service with intelligent tour guide as the core function, aiming to formally introduce cell phone intelligent tour guide into the smart tourism.

The connotation of the CAA framework of "smart tourism" can be summarized into three points:

(1) The concept of "smart tourism" destination is used to clarify the application subject. Therefore, in addition to tourists, governments, and enterprises covered by general "smart tourism", it also includes destination residents, that is, "smart tourism" covers The concept of scenic spots, cities (blocks, communities, etc.), and regional tourism destinations is developed.

(2) Public benefit and profitability attributes are two aspects of smart tourism. In the framework system of smart tourism, the public benefit and profit attributes connect the applications and capabilities of smart tourism.

(3) Various applications of public welfare "smart tourism" and for-profit "smart tourism" and the compatibility and connectivity between them to a certain extent can avoid information islands and fill information gaps to the greatest extent."

3. Research Contents and Methods

3.1. Research Content

(1) Sort out and summarize the research results of domestic and foreign crop production areas and rural tourism; draw on the relevant research on agricultural multi-function and sustainable development of rural tourism, demonstrate the relationship between agricultural multi-function and rural tourism in China, and analyze the importance of developing rural tourism.

(2) Conduct field surveys on the crop production areas selected in this paper to understand their development and the history and current status of rural tourism development, and obtain relevant survey results by combining data literature review and summary.

(3) Comprehensively evaluate the development status of the crop production areas selected in this paper from the multiple perspectives of agricultural multi-functional economy, environment, society and culture, and make relevant analysis.

3.2. Research Methods

(1) Literature research method

This article is mainly through the search, sorting and summarization of domestic and foreign literature on agricultural multi-function, crop production area, and rural tourism.

(2) Interview method

Through conversations and interviews with the staff of the relevant departments of tourism and agriculture in the study area, local tour operators, consumers and relevant experts, understand the development process of rural tourism in the study area.

(3) Field survey method

Through the related investigation and investigation of the rural tourism researched in this article, we can fully understand the development status and existing problems of local rural tourism, and provide the most fresh basis for the development strategy of local rural tourism.

(4) Case study method

In this paper, the selected crop production area is used as a research case, and the relevant research results and literature related to it are used to explore this case in depth, and explore the development and research of rural tourism environment based on the integration of agricultural and tourism, Hope to have some reference for the development of rural tourism in other regions.

3.3. Data Sources

The data used in this article comes from "Tourism Journal", "China Tourism News", "China Source Press", "China Environmental Science Press", "China Agricultural Press", "Economic Science Press", China Tropical Agriculture, Tourism science, tourism forum, world agriculture.

4. Discussion and Analysis of Research Results

4.1. Analysis of Current Situation of Rural Tourism Development

(1) Economic overview

1) The industrial structure ratio and gross industrial product growth rate of 2018 in the location of the crop production area studied in this paper are shown in Figure 1.

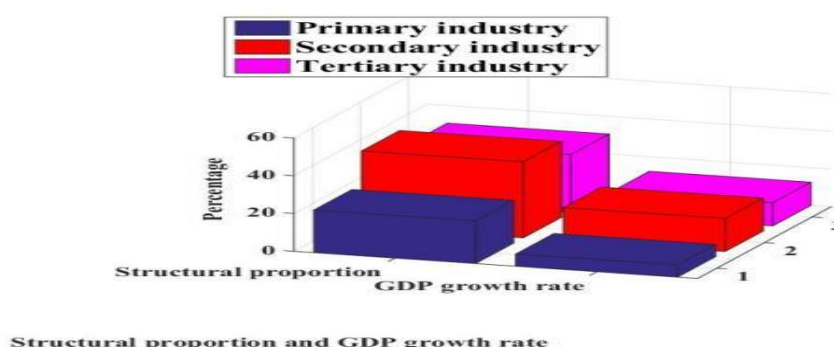


Figure 1. Proportion of three industrial structures and GDP growth rate in 2018

It can be seen from Figure 1 that the structure ratio of the primary industry where the crop production area studied in this paper is 22.6%, and the GDP growth rate is 6.5%; %; The structure

ratio of the tertiary industry is 30.6%, and the GDP growth rate is 12.3%.

2) The economic indicators in 2018 of the crop production area studied in this paper are shown in Table 1.

Table 1. Economic indicators in 2018

Index	Unit	Year 2018
Rural GDP	Ten thousand yuan	356850
Total output value of agriculture, forestry, animal husbandry and fishery	Ten thousand yuan	290344
Total number of farmers	Ten thousand yuan	10.325
Total population	Ten thousand people	29.356
Employed population of primary industry	Ten thousand people	10.852
Per capita net income of farmers	Element	12456.3

It can be seen from Table 1 that the rural GDP in the study area is 3.5658 million yuan, the total output value of agriculture, forestry, animal husbandry and fishery is 2.9344 million yuan, the total number of farmers is 103.25 million yuan, the total number of population is 293.56 million, and the population of primary industry is 108.52 million. The per capita net income of farmers is 1,2456.3 yuan.

(2) Scale of rural tourism

According to the statistical conclusions of the functional agencies and relevant departments in the study location, as of the end of 2018, the rural tourism system in the location of the crop production area studied in this paper has begun to take shape, and the scale of tourism is shown in Table 2.

Table 2. Scale of rural tourism

Project	Industrial and agricultural demonstration area	Scenic spot assistance station	Fishery scenic spot	Forest family
Number	20	45	15	150

It can be seen from Table 2 that 20 industrial and agricultural demonstration areas have been established in the locations of the crop production areas studied in this paper; 45 scenic spot assistance stations have been installed, 15 fishery scenic spots have been established, and there are also 150 forest families.

(3) Tourism and agricultural resources

The agricultural resources in the crop production area studied in this paper are very rich. The situation of agricultural resources is shown in Table 3.

Table 3. Agricultural resources

Resource subgroup	Landmark agricultural products	Brand agricultural products	Facility agriculture	Characteristic farming technology	Agricultural Cultural Relics
Unit	Species	Species	Place	Species	Individual
Quantity	5	10	6	7	6

It can be seen from Table 3 that there are 5 kinds of landmark agricultural products, 10 kinds of

brand agricultural products, 6 facilities agriculture, 7 kinds of characteristic farming techniques, and 6 agricultural cultural relics in the crop production area studied in this paper.

4.2. Evaluation of Rural Tourism Environment and Operation Status

(1) Air quality

According to the air quality functional zoning, the environmental air quality of the crop production area studied in this paper implements the first-level standard in the national "Ambient Air Quality Standards". According to the numerical control of local air quality testing by relevant departments, the carbon monoxide concentration and carbon dioxide The concentration is lower than the national standard. The environmental quality standards of atmospheric pollutants are shown in Figure 2.

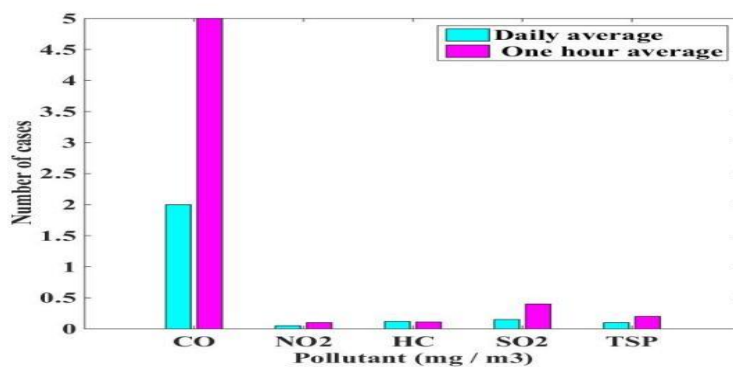


Figure 2. Environmental quality standards of air pollutants

It can be seen from Figure 2 that the main pollutant of the crop production area studied in this paper is CO, followed by SO₂, NO₂, TSP, HC. Among them, the emissions of carbon monoxide are relatively high per unit time, and the emissions of SO₂, NO₂, TSP and HC per unit time are less than one-tenth of the emissions of carbon monoxide.

(2) Current status of business entities

Figure 3 shows the analysis of the management level of the main agricultural leisure enterprise in the agricultural area.

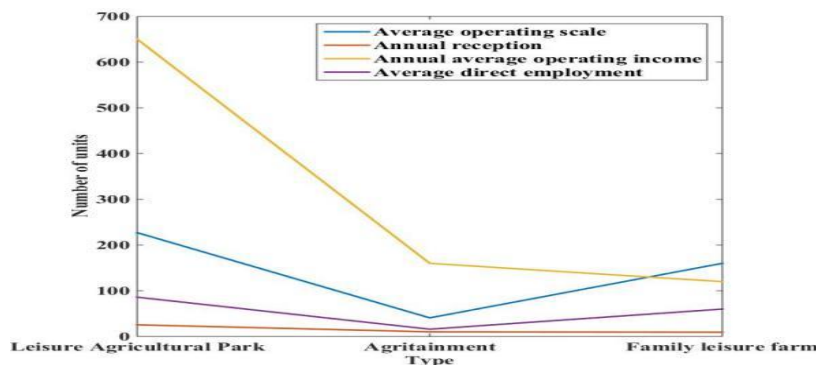


Figure 3. Analysis on the management level of leisure agriculture in agricultural area

It can be seen from Figure 3 that the scale of operation of the leisure agricultural park is relatively large, at 227 acres, the annual per capita reception is 253,000 people, the average annual operating income is 6.5 million yuan, and the average direct employment is 86 people; the operating scale of the farmhouse is 40.3 Mu, with an annual per capita reception of 102,000 people, an

average annual operating income of 1.6 million yuan, and an average of 16 people directly leading employment; a family leisure farm with an operating scale of 160 acres, and an average annual reception of 94,000 people, an average annual operation The income is 1.2 million yuan, and the average direct employment number is 60 people.

(3) Tourist accommodation facilities

Figure 4 shows the main structure of leisure agricultural management in the agricultural area.

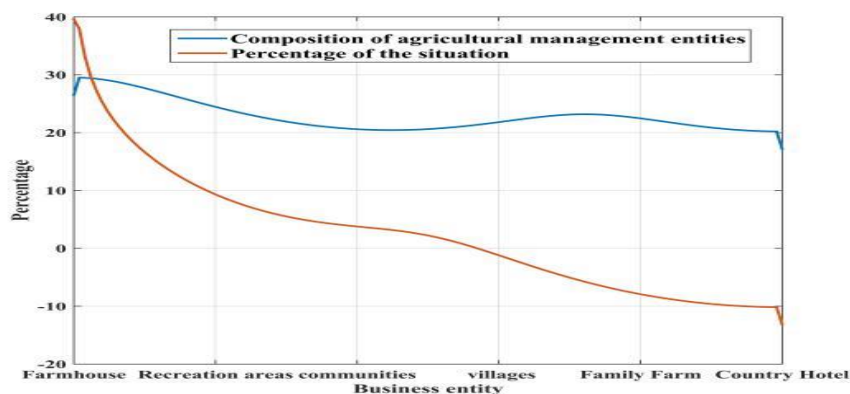


Figure 4. Main body of leisure agriculture in agricultural area

It can be seen from Figure 4 that the majority of the accommodation facilities in the agricultural area are farmhouses, accounting for 65%; leisure agricultural parks, rural tourism communities and rural tourism villages account for 10%; family leisure farms and rural hotels account for 3%, 2%. This shows that the main economic sources of rural tourism in the agricultural area are farmhouses and accommodation, which account for almost two-thirds of the total income of the region.

5. Conclusion

The intelligent tourism system is a large-scale system, including many management technologies and information processing. The future development trend of the intelligent tourism system is bound to be integrated and multi-departmental. The coordinated development of rural tourism development and environmental protection requires the joint participation of the government and the wider community. We should fully recognize the importance and necessity of rural tourism environmental protection, and face up to the inevitable link between rural tourism development and environmental protection; The quality of rural tourism directly affects the degree of development of rural tourism and is also an important factor for the sustainable development of rural tourism. Through strengthening management and supervision, effective governance measures are taken to achieve the coordinated development of rural tourism and environmental protection, and promote rural tourism and environmental protection. Virtuous circle between.

The research in this paper shows that there is a mutually promoting and interdependent relationship between the development of multifunctional agriculture and rural tourism in China. On the one hand, the economic, cultural, and social functionalities of multifunctional agriculture provide the economic foundation, talent reserve, and ecological and cultural environment for the development of rural tourism, which greatly promotes the sustainable development of rural tourism; On the other hand, the development of rural tourism has also expanded the way to achieve multifunctional agriculture. The development of rural tourism is conducive to accelerating the regional economic development of rural areas, enhancing the economic function of multifunctional agriculture, and conducive to the sustainable development and utilization of rural resources and the

environment. It is conducive to promoting the transfer of rural surplus labor and realizing the social function of multifunctional agriculture; the development of the tourism economy of agricultural areas should strengthen its own characteristics, including the unique landscape of the scenic spot, the local flavor of agricultural products and regional folk customs, and only fully use these Characteristics, the attraction of tourism in farming areas can be enhanced.

The research in this paper shows that the basis of tourism development in agricultural areas is the maintenance of the ecological environment. In the development process, the sustainable development concept is adhered to, and at the same time, a realistic ecological development plan is formulated. This requires that the ecological carrying capacity of the original ecological environment be planned. The investigation and grasp; the cultural construction of tourist destinations in farming areas should focus on building brands, looking for local cultural stories and customs, and integrating them into tourism and sightseeing activities after refining, while preserving the sense of the times of tourism in farming areas, so as to enhance farming areas The quality and value of tourism, at the same time, according to the cultural differences and characteristics of tourists, to explore targeted tourism products and projects, such as folk skills, in order to highlight the culture and customs of the farming area; tourism in the farming area should be simple Natural characteristics, during the construction of scenic facilities, we must ensure a strong atmosphere of the farming area and unify the style of the scenic spots. The local facilities should use more local materials in the selection of materials. This not only ensures the practicality of the landscape facilities, but also makes the architecture and nature The integration of the environment can also save a lot of construction costs and create a harmonious Eco-environmental atmosphere of the farming area; the development of standardized and large-scale farming area tourism projects conforms to the development trend of tourism projects. Under the current relatively low tourism economy, the agricultural area tourism has very great development prospects. According to the correct guidance of the government's functional departments, tourism in agricultural areas can make a more outstanding contribution to the sustained and prosperous growth of China's economy. Due to time constraints, the article does not propose a universal approach and strategy for smart tourism. In the future, the article will start from actual cases, aiming to uncover approaches for the development of rural tourism environments with replicability.

Conflict of interest

There is no potential conflict of interest in this study

Data Availability

No data were used to support this study.

Funding

There is no funding for this study

References

- [1] P.Ruzic, &D. Demonja. (2017). "Economic Impacts of Rural Tourism in Rural Areas of Istria (Croatia)", *Transformations in Business & Economics*,16(3),pp.31-40.
- [2] Awang, Khairil Wahidin, Aslam, Mohamed, Zamzuri, Norol Hamiza, & Gani, Arni Abd. (2017). "Assessing Sustainable Rural Tourism:a Qualitative Analysis of Gomantong Cave,Sabah",*Advanced Science Letters*, 23(9),pp. 8047-8050.

- [3] Gholamreza Janbaz Ghobadi, & Mahin Shah Verdian. (2016). "The Environmental Effects of Tourism Development in Noushahr", *Open Journal of Ecology*, 06(9), pp.529-536.
- [4] Leonardo Pulido Madrigal. (2016). "Climate Change, Soil Salinity and Crop Production in Irrigation areas", *Terra Latinoamericana*, 34(2), pp.207-218.
- [5] She Wei, Huang Huang, Guan Chunyun, Chen Fu, & Chen Guanghui. (2016). "Study on The Carbon Sink Function of Crop Production in Typical Agricultural Areas of China", *Engineering Sciences*, 18(1), pp.106.
- [6] Nguyen An Thinh, Nguyen Ngoc Thanh, Luong Thi Tuyen, & Luc Hens. (2018). "Tourism and Beach Erosion: Valuing The Damage of Beach Erosion for Tourism in The Hoi an World Heritage Site, Vietnam", *Environment Development and Sustainability*(1), pp.1-12.
- [7] Lu   SILVA a, & Ana DELICADO b. (2017). "Wind Farms and Rural Tourism: a Portuguese Case Study of Residents' and Visitors' Perceptions and Attitudes", *Moravian Geographical Reports*, 25(4), pp.248-256.
- [8] G. Sedmak, T. Planinc, T. Kociper, & S. Planinc. (2016). "Managers' Perceptions of The Role of Ict in Rural Tourism Firms Efficiency: The Case of Slovenia", *Tourism*, 64(3), pp.339-345.
- [9] T. Hong.(2017). "Study on The Development of Rural Tourism Resources Based on Ecotourism", *Revista De La Facultad De Ingenieria*, 32(12), pp.455-462.
- [10] Jingfeng Luo. (2017). "Research on Mechanism of Risk Coupling for Rural Tourism Safety", *Journal of Risk Analysis & Crisis Response*, 7(1), pp.45.
- [11] Gordana Radovic.(2016). "Sources of Finance for Rural Tourism in The Republic of Serbia", *Economics of Agriculture*, 63(3), pp.1053-1065.
- [12] Ljiljana Aleksic, & Vesna Kosoric. (2016). "Building Revitalization and Integration of Solar Systems in Sustainable Rural Tourism", *Prostor*, 24(1), pp.102-113.
- [13] Chen Z. *Research on Ecological Rural Tourism Development Based on Green Environmental Protection Model*[C]//IOP Conference Series: Earth and Environmental Science. IOP Publishing, 2021, 769(2): 022048.