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EVALUATION SYSTEM OF RURAL SUSTAINABLE TOURISM LAND BASED ON ECOSYSTEM SERVICE VALUE

Abstract: With the development of the economy, people's living standards are getting higher and higher. People will look for ways to relax after busy work, and rural tourism is a slow-paced life. The purpose of this paper is to analyse the evaluation system of rural sustainable tourism land based on ecosystem service value. In this paper, an evaluation model based on AHP and association rules is proposed, and the two methods are described in detail. The experimental results of this paper show that the number of tourists has increased from 12 % in 2014 to 24.9 % in 2020, and the growth rate of tourism revenue has increased from 24 % in 2014 to 30 % in 2020. Rural tourism is an important part of tourism and an important force to implement the strategy of rural revitalisation. It plays an important role in accelerating the modernisation of agriculture and rural areas, the integrated development of urban and rural areas, and poverty alleviation in poor areas. The number of farm stays has increased from 1.9 million in 2014 to 3.25 million in 2020. It can be seen that with the growth of time, the rapid development of the economy, and increasing people who love to travel, this has led to changes in the utilisation rate of rural land. Therefore, the research on the evaluation system of rural sustainable tourism land based on ecosystem service value is very meaningful.

Keywords: ecosystem service, sustainable development, rural tourism evaluation model

Introduction

As a production industry with large potential for development, rural tourism has a strong popularisation effect and is an important method to solve the "three rural" problems. In recent years, the central government has issued many relevant policies to promote the development of rural tourism. In response, local governments at all levels have issued a series of laws, regulations, and policy documents on rural tourism to provide policy support for the sustainable development of rural tourism.

The development of rural tourism is an important strategy and must be chosen by governments at all levels to develop the economy. The sustainable development of rural tourism requires coordination in all aspects, and the significant improvement of the rural economy through scientific planning is conducive to the harmonious development of society. The significance of sustainable development includes three aspects: economic, ecological, social, and cultural sustainability. What is important is ecology, which requires the coordinated development of environmental, social, and economic interests. Its important symbols are the sustainable use of resources and a good ecological environment. However, some problems will inevitably be exposed in the process of developing rural tourism, which

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will affect the sustainable development of rural tourism in essence. Therefore, a reasonable and effective evaluation of rural sustainable tourism land is helpful to promote its sustainable and steady development.

The innovations of this paper are: (1) It introduces the theoretical knowledge of ecosystem service value and rural sustainable tourism and uses Analytic Hierarchy Process (AHP) to analyse the evaluation system of rural sustainable tourism land based on ecosystem service value. (2) It expounds the analysis method of the spatial pattern of rural leisure tourism.

Related work

With the development of the modern economy, people begin to pursue spiritual satisfaction and enjoyment of life. With the further development of tourism, rural tourism has become an important tourism resource in the tourism industry and is increasingly favoured by tourists. It is also a tourism resource with large development potential and an important way of rural revitalisation. According to the ecological vulnerability theory, Zang et al. [1] research adopts the framework of "exposure-climate sensitivity adaptability" to construct an ecological vulnerability evaluation index system. He proposed a model for calculating the service value of ecosystem improvement based on empirical parameters, from the analysis of landscape pattern index, during the investigation period, the fragmentation degree of the three natural wetland landscape types in the study area gradually increased. However, he did not give a specific explanation for the algorithm of landscape pattern index. Yang et al. [2] found that despite the widespread application of ecosystem service (ESV) in recent decades, the temporal and spatial variation of ESV and its hotspots based on ecological protection red line (EPR) division is unclear. The area of wetlands and water areas within the EPR reduced, while the areas of cultivated land, grassland, forest land, building land, and unused land rose, according to his findings. The ESV in the EPR zone declined by 13.48 million yuan (RMB) over a ten-year period. According to Lloyd-Smith [3], there is an increasing interest in evaluating the value of ecosystem services on a worldwide scale, and the relevance of these global valuation exercises depends on the conclusions' robustness. He points out a potential flaw in these pooled estimates: some powerful outliers are vulnerable. He demonstrates how integrated studies account for a large portion of the value of ecosystem services. He brought up the issue of the insufficiency of pooled estimations. Song [4] observes that satellite-based land cover maps are frequently used to calculate ecosystem service values (ESVs). The uncertainties in global land cover data and its impact on ESV projections, on the other hand, are poorly known. However, we say if the value of the ecosystem services generated is real. Freshwater lake habitats, according to Makwinja et al. [5], provide a diverse range of ecological services that are vital to riparian populations' livelihoods. Understanding the dynamics of land use and land cover (LULC), Decision-making processes and efficient implementation of ecosystem-based management approaches require a thorough understanding of these factors and their effects on multiple ecosystem service values (ESVs). Forest cover was severely reduced throughout Makwinja study, whereas built-up areas, cultivated land, bare ground, shrubland, and grasslands rose significantly. He does not, however, explain why it is critical to understand land use and land cover dynamics.

Evaluation of rural sustainable tourism land based on ecosystem service value

Factors for the vigorous development of rural tourism

While meeting economic, social development, and aesthetic needs, it provides cultural integrity, biodiversity, and provides sustainable tourism development goals, norms of action, and consensus [6]. A schematic diagram of the sustainable development of rural tourism is shown in Figure 1.

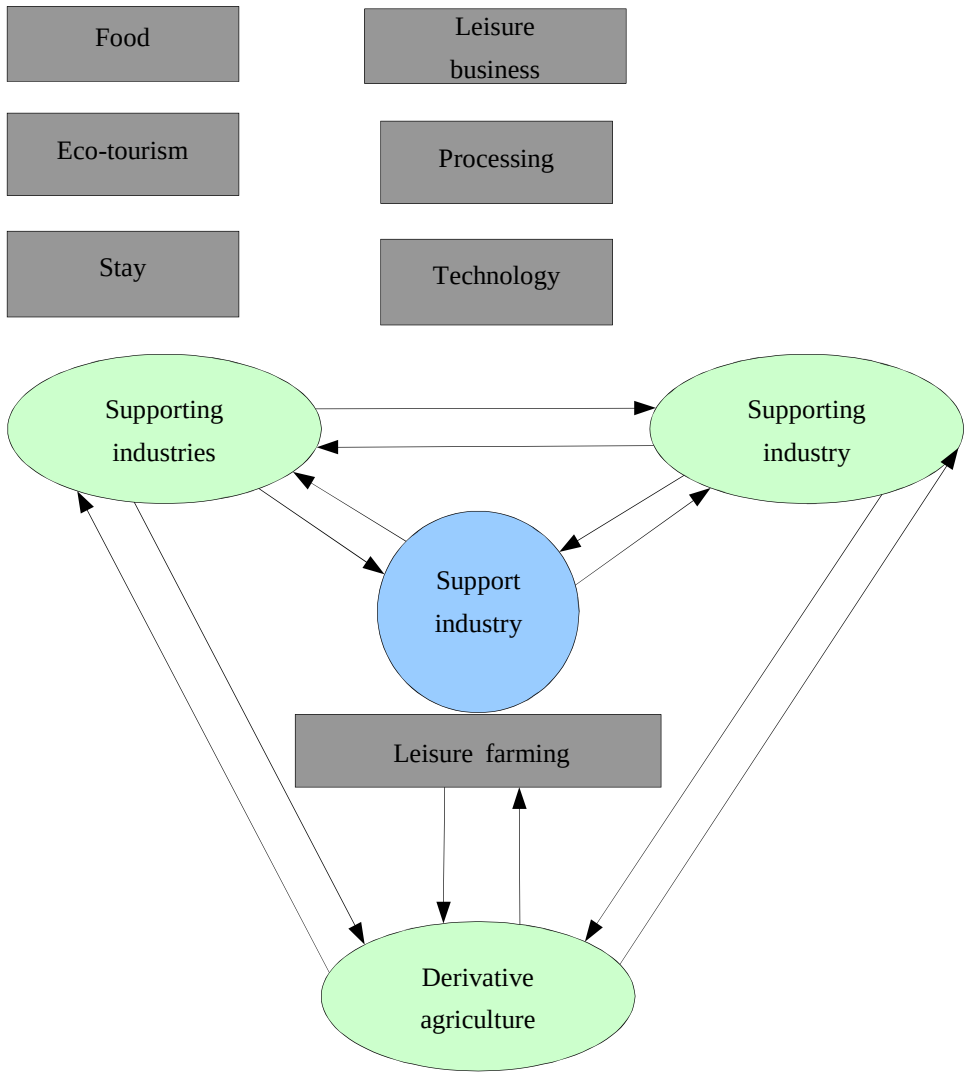
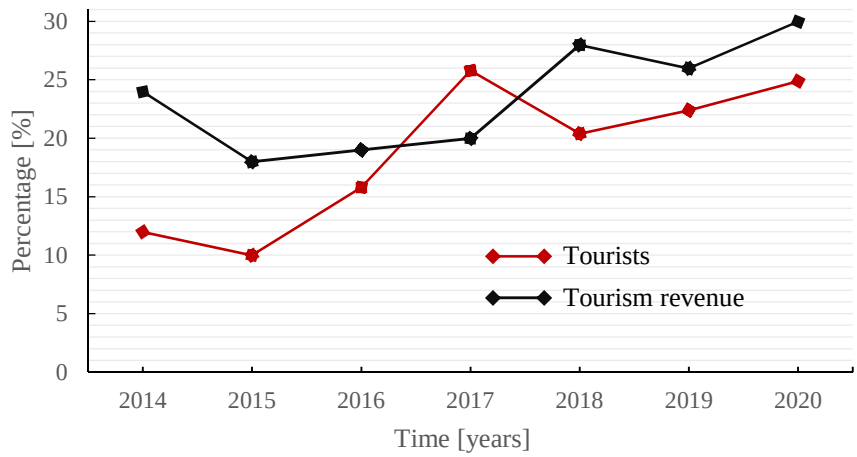


Fig. 1. Schematic diagram of sustainable development of rural tourism

As indicated in Figure 1, the growth of rural tourism for achieving certain economic benefits and effectively improving resource management for the benefit of local communities and future generations is referred to as sustainable economic development in tourism. The growth of rural tourism in a sustainable ecological environment indicates that the development of rural tourism should be in harmony with the local basic ecological status, biodiversity, and cultural heritage and the integrity of ecological resources, to maintain a good ecological system in the countryside, promote the construction of rural landscapes, and improve the rural living environment [7]. The sustainable development of social culture in rural tourism means that the development of rural tourism should maintain and enhance the unique personality of rural culture and inherit rural cultural traditions while enhancing the pride of rural residents [8].

This paper analyses the general situation of China's rural tourism income from 2014 to 2020, as shown in Figure 2.

a)



b)

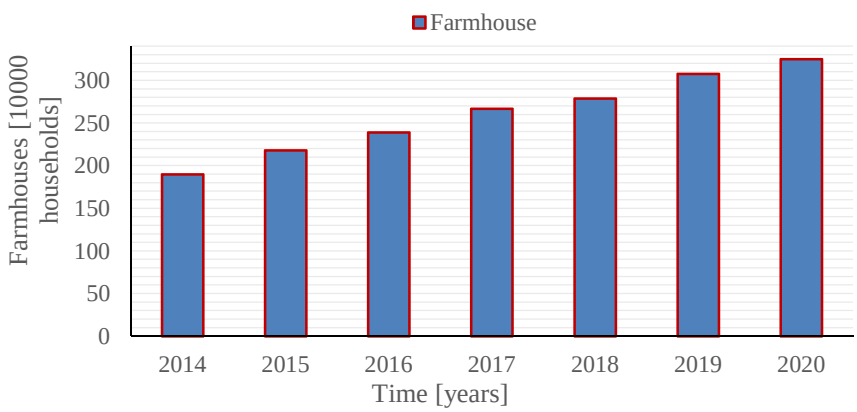


Fig. 2. Overview of China's rural tourism revenue from 2014 to 2020; a) the growth trend of the economy from 2014 to 2020, b) 2014-2020 revenue

As shown in Figure 2, in the development of rural tourism, sustainable development includes many contents such as economy, ecological environment, social culture, and so on. Specifically, the development of rural tourism is inseparable from rural revitalisation. As an effective poverty alleviation tool, tourism can solve the employment problem of the poor, enable the poor to obtain the ability of sustainable development, maximise the interests of the poor, and finally get rid of poverty and become rich [9]. However, when developing rural tourism in some areas, there may be short-sighted behaviours that focus on short-term interests over long-term interests, neglect the tourism carrying capacity and resource support capacity, destroy the natural and cultural environment of the countryside, and face risks to the sustainable development of the countryside [10]. The factors behind the booming development of rural tourism are as follows:

(1) Reverse urbanisation trend of tourism consumption

Reverse urbanisation refers to the common phenomenon that some cities use the residence permit system to set thresholds for education, skills, investment, etc., or there is a phenomenon of "idling" that only changes the household registration without improving living conditions and welfare levels. The phenomenon of reverse urbanisation has become widespread in developed countries. With the development of China's economy since the mid-1990s, the phenomenon of suburbanisation of population consumption in megacities has become very obvious, and the rising farmhouses gradually cover the suburban areas of cities across the country. The urbanisation rate is a measure of urbanisation that is usually calculated using demographic variables, such as the proportion of the population living in cities compared to the overall population (including agricultural and nonagricultural). At present, the urbanisation rate has exceeded 70 %, and the phenomenon of urban residents' residence, employment, and consumption shifting to the countryside and surrounding areas has begun to appear [11]. With the influx of people to rural areas, a series of urban people go to rural areas to run farmhouses and tourism projects, urban capital to go to the countryside to engage in rural tourism, ancient village reconstruction and other phenomena, rural tourism is favoured by increasingly urban tourists [12].

(2) Sharing economy brings new opportunities

The sharing economy refers to an entity or individual that holds idle resources and sells the right to use them to others for a charge, with the transferor receiving a profit and the sharer creating value by sharing other people's spare resources. The first and most important ingredient in the sharing economy is idle resources. In 2017, the "sharing economy" attracted much attention. As a comprehensive service industry, rural tourism has many idle tourism resources, which can share land, empty houses, unmanned orchards, and surplus agricultural products. With the rapid development of the Internet industry, rural tourism has entered the era of sharing economy [13]. In the sharing economy, with the help of the platform, these idle resources can be shared and developed with a small investment. To realise the reuse of resources, through paid sharing of resources and reuse of resources, idle resources can be effectively integrated, and new impetus can be injected into the development of rural economy [14].

The main mode of China's rural tourism development

The development model represented by "farm stay" and the scenic development model of foreign capital management under the leadership of the government have become the common form of China's rural tourism at this stage [15].

(1) Scattered farmers' self-management type

Farmers unite their families, rely on local public environmental resources, use the atrium as a space, organise families, and spontaneously provide the main commodities of farmhouse entertainment and characteristic farmhouse meals for urban tourists. As mentioned above, farmhouses have become synonymous with rural tourism and have rapidly spread throughout the country [16]. Figure 3 shows a schematic diagram of the spatial layout of the scattered "farmhouses".

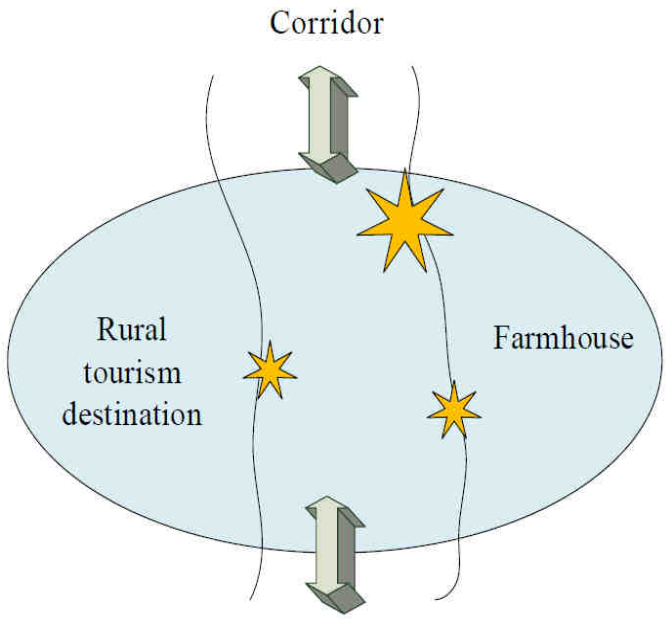


Fig. 3. Schematic diagram of the spatial layout of the scattered "farmhouse"

As shown in Figure 3, increasing farmers' self-employment opportunities, increasing rural residents' income, adjusting rural industrial structure, beautifying the rural environment, and promoting urban-rural exchange. It lays the foundation for the popularisation and development of diversified rural tourism and conforms to and promotes the gradual change of China's tourism model from traditional sightseeing tourism to leisure tourism [17].

(2) Community-led development model of rural tourism cooperatives

Rural tourism cooperatives are professional cooperative organisations established spontaneously by farmers, with the purpose of increasing farmers' income, implementing democratic management, and sharing the benefits of new cooperatives. It transforms rural tourism from an individual economy to an agglomeration economy through the integration of loose management of individual resources, reflects the scale effect of rural tourism, and realises the industrialised development of rural tourism [18]. At the same time, through the construction and improvement of the system, unified standards and norms are formulated for prices and service quality, to avoid vicious competition among individual "farmhouse music" operators and maximise the interests of farmers [19].

(3) Exquisite rural tourist attraction model

The so-called exquisite rural tourist scenic spot refers to the relocation of the original residents in the scenic spot through land replacement and other forms, remodeling the original rural space and landscape, and creating a delicate and concentrated rural tourist scenic spot for tourists. The different modes of development of rural tourism scenic spots are shown in Figure 4.

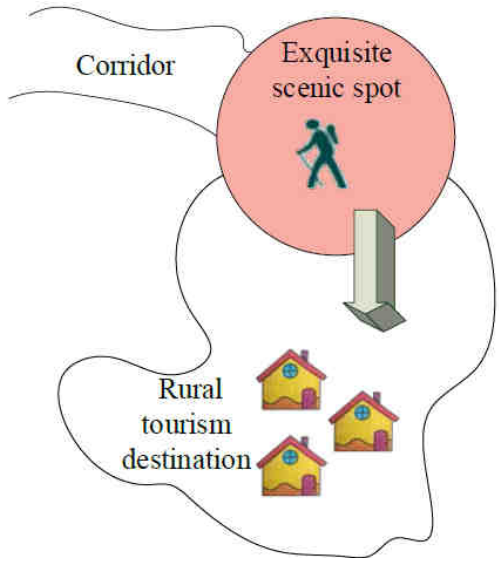


Fig. 4. Different models of rural tourism scenic development

As shown in Figure 4, the refined rural tourism scenic spot requires a large investment due to the resettlement of the villagers, but it can bring convenience to the operators in terms of operation and management, and can guarantee the interests of the investors to the greatest extent.

Method of spatial pattern of rural leisure tourism destination

Usually, exploratory spatial data analysis methods such as nearest neighbour, spatial distance analysis and spatial agglomeration analysis are used to carry out spatial pattern analysis. According to the research needs of this paper, the Euclidean distance analysis based on the distance analysis tool is used, the advantage of Euclidean distance is that it can overcome the correlation interference between variables and eliminate the influence of the dimensions of each variable, which to perform the nearest neighbour analysis as shown in equation:

$$NNI = \frac{\bar{D}_0}{\bar{D}_E} \tag{1}$$

where D_0 is the spatial distance, and D_E is the closest distance, NNI represents the nearest neighbour index, and the spatial distance analysis method in this paper is used to verify

whether there are spatial agglomeration characteristics of rural leisure tourism destinations in the region. Spatial distance analysis is an important part of spatial analysis. Euclidean distance has great advantages in spatial distance analysis because of its characteristics.

Ripley'K-function and kernel density estimation analysis methods are applied in the spatial agglomeration analysis process. The function formulas required for its calculation are:

$$K(r) = \frac{X}{n^2} \sum_{i=1}^{n} \sum_{j=1}^{n} \frac{1}{w_{ij}} I_r\left(u_{ij}\right) \tag{2}$$

$$L(D) = \sqrt{\frac{K(r)}{\Pi}} - r \tag{3}$$

Using $L(D)$ to represent the spatial peak, and the corresponding spatial distance is the maximum spatial aggregation scale.

It is an example of a nonparametric test. A VaR prediction model [19] can be created using univariate kernel density estimation. By putting, a weight on VaR can be established. Kernel density estimation analysis is one of the commonly used hot spot analysis methods. Blind selection of this bandwidth can easily lead to its estimation bias. To reduce the bias, this paper introduces the optimal spatial clustering distance of the *Ripley'K*-function as the bandwidth required for its analysis. Among them, the kernel density estimation analysis formula is as follows:

$$f(a) = \frac{1}{nh} \sum_{i=1}^{n} K\left(\frac{A - A_i}{h}\right) \tag{4}$$

where $f(a)$ is the kernel density calculation function at the spatial position X, among which the relevant data show that the larger the estimated value of $f(a)$ is, the denser the tourist resource points of this type are. A stands for resource point.

Spatial correlation analysis focuses on describing the correlation of attribute values between a certain location and neighbouring locations in the study area, including two analysis methods, *Geary'sC* and *Moran'sI*. There are various forms of spatial autocorrelation coefficients, each of which is appropriate for different sorts of data. There are several indices available for spatial autocorrelation analysis in geostatistics, but the two most important are I and Geary's coefficient, *Geary'sC*. I is used to investigate the spatial correlation and agglomeration tendency of diverse and overall rural leisure tourism resources in each village in this article. The calculation formula is the following:

$$I = \frac{n \sum_{x=1}^{n} n \sum_{y=1}^{n} xy\left(a_x - \bar{a}\right)\left(a_y - \bar{a}\right)}{\sum_{x=1}^{n} \sum_{y=1}^{n} W_{ab} \sum_{x=1}^{n} \left(a_x - \bar{a}\right)^2} \tag{5}$$

In the formula, I is the actual Moran index of various and overall rural tourism resources in each village, and a_x and a_y represent the estimated kernel density of a certain type of rural leisure tourism destination in villages A and B in the study area, respectively. $\bar{a}$ represents the estimated mean value of the resource core density of all administrative villages in the study area, and W_{ab} represents the space vector matrix, which defines the spatial relationship of regional units.

Construction of evaluation index system for intensive utilisation of tourism land

The principles for the construction of the indicator system are as follows:

(1) Theoretical and scientific: the construction of the evaluation index system must be guided by a certain theoretical basis. Absorbing the theory of urban land intensive utilisation evaluation, scientifically investigate the utilisation level of tourism land from three aspects of economy, society, and ecology. The index system constructed can objectively reflect the actual situation.

(2) Systematic and hierarchical: the complexity of the land resource utilisation system requires that the comprehensive evaluation of the level of intensive utilisation must overcome the traditional isolated research mode. When arranging the evaluation indicators, it is necessary to maintain a clear idea and build a rationally structured and well-organised index system.

(3) Forward-looking and instructive: intensive utilisation of tourism land is a brand-new concept. The evaluation index system must have the characteristics of new concepts and new ideas and be forward-looking. The evaluation results must be able to guide the future decision-making of tourism land.

(4) Independence and operability: the integrity of the evaluation system should not be pursued blindly based on the principles of simplicity, clarity, and ease of operation. This will lead to the difficulty of obtaining the indicators, increase the difficulty of constructing the evaluation system, and make it inoperable. Therefore, before the construction of the evaluation index system, the possibility and authenticity of data acquisition should be considered first, and an index system should be established on the basis of ensuring the smooth data collection.

Evaluation method of intensive utilisation of tourism land

Indicators are quantitative information that reflects and measures the characteristics of things and their changes, and have the characteristics of explaining, expressing, declaring, or making people understand something. The representation is mainly based on data or number tables and graphics, which can make complex things and their changing trends easy for people to understand. The information pyramid is shown in Figure 5.

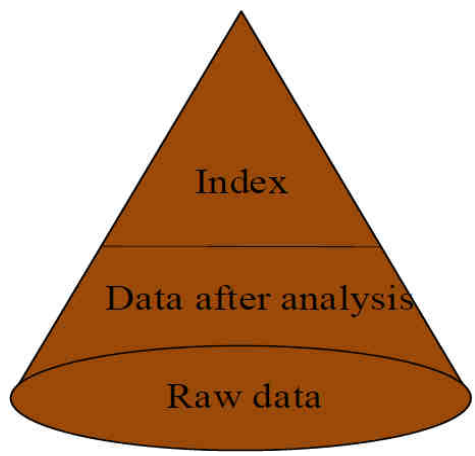


Fig. 5. Information pyramid

As shown in Figure 5, the source basis of the indicators is the original data. After further processing and analysis of the original data, specific data that can reflect the overall phenomenon are finally obtained.

Tourism land has comprehensive characteristics. When evaluating the intensive utilisation of tourism land in a certain area, it is necessary to comprehensively consider the evaluation methods and various constraints. After the comparative analysis of various evaluation methods, the most significant advantage of AHP is its simplicity and clarity. AHP is not only appropriate for circumstances involving uncertainty and subjective knowledge, but it also allows for the application of experience, insight, and intuition in a logical manner. This article uses the analytic hierarchy technique in conjunction with the previous research findings.

Analytic hierarchy process

The so-called single-level ranking refers to the calculation of the weights of the importance order of the factors related to this level for a certain factor in the previous level according to the judgment matrix. The single-level sorting is the weight value that determines the importance order of each element at this level relative to the element at the previous level. Judging matrix B must satisfy formula:

$$YW = \lambda_{\max} W \tag{6}$$

where $\lambda_{\max} W$ is the largest eigenroot of matrix B, the process is as shown in the following formula:

$$H_i = \prod_{j=1}^{n} b_{ij} \left(i = 1, 2, ..., n\right) \tag{7}$$

Calculating the n^{th} root of H_i as in formula:

$$W_i = n\sqrt{H_i}\left(i = 1, 2, ..., n\right) \tag{8}$$

where W_i is the weight, calculating the largest eigenroot:

$$\lambda_{\max} = \sum\nolimits_{i=1}^{n} \frac{\left(AW\right)_i}{nW_i} \tag{9}$$

where $(AW)_i$ is the i-th component of vector AW.

It is necessary to calculate its consistency index CI such as:

$$CI = \frac{\lambda_{\max} - n}{n-1} \tag{10}$$

The larger the CI, the worse the consistency of the judgment matrix.

To quantify the semilifting ladder fuzzy membership function, that is:

$$f\left(a\right) = \frac{\left(a - a_2\right)}{\left(a_1 - a_2\right)} = \begin{cases} 1, 0, a \geq a_1 \\ \dfrac{\left(a - a_2\right)}{\left(a_1 - a_2\right)}, a_2 \prec a \prec a_1 \\ 0, a \leq a_2 \end{cases} \tag{11}$$

To quantify the semi-descending ladder fuzzy membership function, that is:

$$f(a)=\frac{(a_1-a)}{(a_1-a_2)}=\begin{cases}1,0,a\le a_1\\ \dfrac{(a-a_2)}{(a_1-a_2)},a_2\prec a\prec a_1\\ 0,a\ge a_2\end{cases} \tag{12}$$

In the formula: a_1 and a_2 are the maximum and minimum values of the attributes of each index at different times in the same area.

The linear weighting method is an evaluation function method, which is a method for solving multiobjective programming problems. Combined with the standardised data values and the weights of each evaluation index, the linear weighting method is used to calculate the comprehensive score of the intensive utilisation of tourism land, as shown in the formula:

$$f_j=\sum_{j=1}^{n}W_i\cdot I_j \tag{13}$$

Among them, f_j is the evaluation score of a certain factor, W_i is the weight of a certain factor index; I_j is the quantitative or standardised score.

Calculation of comprehensive evaluation score

All indicators in the evaluation index system are the comprehensive performance of the degree of intensive utilisation of tourism land, and each indicator shows the status of intensive utilisation of tourism land from its own perspective. The dimensionless quantitative data and the weight of each index are applied to the multifactor comprehensive evaluation method to evaluate the intensive utilisation of rural tourism land.

Grey correlation analysis of land use and ecosystem service value

The results of correlation analysis show that the roles between the two systems of land use, landscape pattern and ecosystem service values are intertwined and complex, not a simple linear correlation. Therefore, a gray correlation model that can comprehensively analyse the interaction of multiple factors in the system is adopted. This paper adopts the standardisation method, such as formula:

$$Z_{ij}=\left(A_{ij}-\min A_{ij}\right)/\left(\max A_{ij}-\min A_{ij}\right) \tag{14}$$

The correlation formula between the land use landscape index and the ecosystem service value is shown in formula:

$$\gamma_{ij}=\frac{1}{k}\xi_i(j)(t)(k=1,2,...,n) \tag{15}$$

The richness, fragmentation, and diversity of land use landscape patterns are related to a certain extent, and at the same time have a certain impact on the value of supply services and gas regulation services.

The landscape pattern of land use and the stability of ecosystem service value are shown in Figure 6.

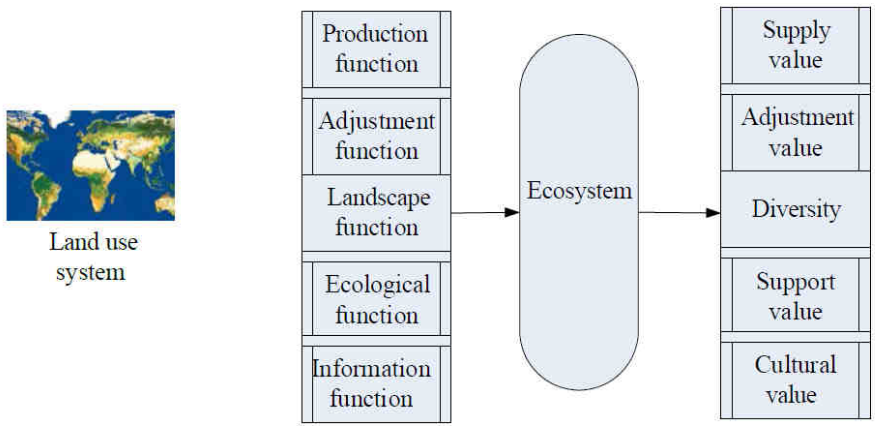


Fig. 6. Landscape pattern of land use and stability of ecosystem service value

As shown in Figure 6, the diversity of land use, landscape patterns, and ecosystem service values is achieved through the diversity of landscape functions. Land use patterns in the terrain correspond to various landscape functions. Landscape functions have numerous features and are expressed in the ability to provide products and services for human society under certain landscape structures and processes. From the perspective of the object of land use, the land composed of soil and its surface attachments is an important component of the ecosystem. Therefore, the characteristics of the ecosystem itself will inevitably restrict the way and degree of land use, and its material energy is fundamentally derived from the ecosystem. Therefore, the restricting effect of ecosystems on land use is also an important aspect of the relationship between the two, which is defined as the environmental impact of the ecosystem on the land use landscape pattern, including direct environmental impact and indirect environmental impact.

Experiment and analysis of rural tourism land change and ecosystem service value

Changes in rural tourism land

Small tourist towns should strengthen the radiation and support to the surrounding villages and increase the development of characteristic rural tourism with rural families, villages, and communities as units, so that the majority of rural residents can benefit from the development of tourism. This paper takes Miyun district, Beijing, as the research area. The income comparisons of various types of small town residents in 2015 and 2020 are shown in Tables 1 and 2.

As demonstrated in Tables 1 and 2, the development of tourism, particularly the development of rural tourism in recent years, would enhance this trend for small tourist towns. At the same time, it can be seen from the data that the increase in the income of urban residents in small tourist towns is higher than that of rural residents. It shows that small tourist towns, such as the agglomeration space of rural production and living elements, are more likely to obtain an agglomeration effect than the surrounding villages,

so that the residents of small towns are more likely to benefit from tourism than the surrounding rural residents.

Table 1

Comparison of the average income of residents in various types of small towns in 2015

Category	Total per capita disposable income of urban residents [yuan]	Per capita net income of rural residents [yuan]	Increase [yuan]
Small agricultural town	5790	4576	1214
Small industrial town	6086	5032	1054
Small tourist town	5650	5657	2214

Table 2

Comparison of average income of residents in various types of small towns in 2020

Category	Total per capita disposable income of urban residents [yuan]	Per capita net income of rural residents [yuan]	Increase [yuan]
Small agricultural town	7684	6579	1105
Small industrial town	8351	7885	466
Small tourist town	7509	8047	–538

With the deepening of people's attention to eco-tourism, the ecological suitability evaluation and planning research of tourism land will eventually develop by leaps and bounds. Figure 7 shows the change trend of various types of land area from 2011 to 2020.

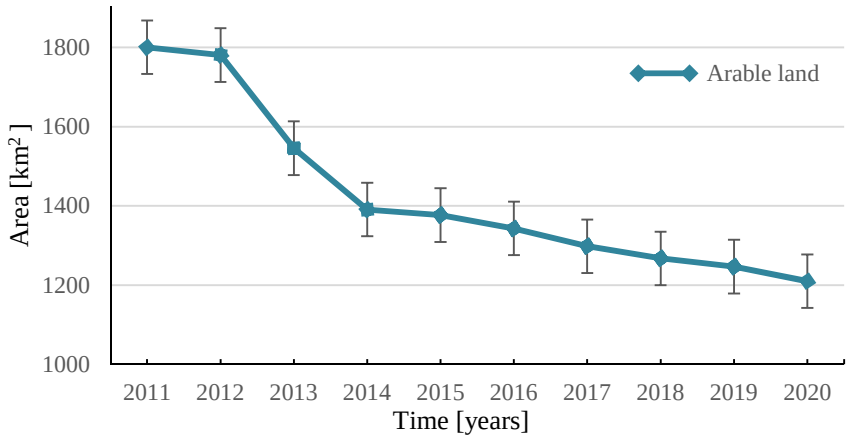
As shown in Figure 7, cultivated land and garden land have been in a downward trend in the past 10 years, and the cultivated land has changed the most. The arable land decreased greatly from 2011 to 2012, and then stabilised with a small decrease. The value of ecosystem services in the study area from 2017 to 2020 is shown in Table 3.

As shown in Table 3, the composition of ecosystem services is mainly composed of supply services and adjustment services, accounting for more than 95 % of all services. The main determinants of regulation services are gas regulation, water conservation, and protection functions, accounting for more than 86 % of all regulation services. Therefore, the spatial analysis of ecosystem service values in the study area mainly focuses on supply services, gas regulation values, water conservation value, and protection function values.

The development trend of protection functions from 2011 to 2015 increased from about 27 % to 30 %, and then dropped to about 24 % in 2015. However, water conservation dropped from 10 % in 2011 to 9 % in 2015. During this period, the trend of changes in water conservation was not large and remained stable, but the growth rate of protection function was much higher than that of water conservation.

The development trend of climate regulation from 2011 to 2015 increased from about 3 % to 4 %, and there has been no obvious change, indicating that it has little impact on the ecological value. Gas regulation increased from 5 % in 2011 to 7 % in 2015, and has also maintained a stable development, both of which have little impact on the value of ecosystem services and are very stable.

a)



b)

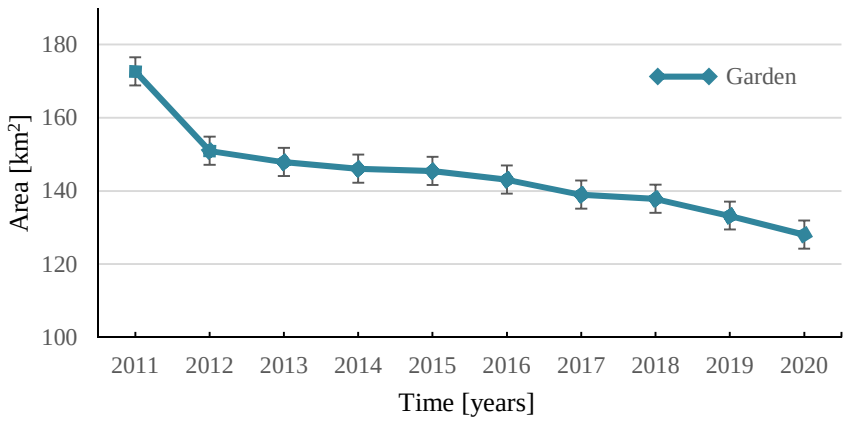


Fig. 7. Variation trends of various types of land area from 2011 to 2020 a) 2011-2020 arable land change area b) 2011-2020 garden changing area

Table 3

Statistical table of ecosystem service values in the study area from 2017 to 2020

Year	Growth rate [%]	Service value per unit area [100 million yuan]	Total service value [100 million yuan]
2017	12.87	7.85	308.54
2018	8.90	9.86	327.40
2019	10.64	11.52	365.32
2020	11.43	13.69	390.82

Improvement measures of rural leisure tourism land

Combined with the analysis results of the development area of rural leisure, tourism land, and Moran index, this paper makes the following suggestions after comparing and sorting by type:

(1) Focusing on the development of leading industries and form its own core competitiveness

The priority development area needs to gradually develop the leading tourism industry while maintaining the advantages of various resources of the unit and plan supporting tourism land scientifically and rationally. To develop tourism growth points other than food and housing, it is required to strengthen the building of eco-agricultural tourism sector and the layout of supporting tourism land on the basis of maintaining the advantages of avoiding sightseeing farms. It is necessary to strengthen the construction of forest health tourism industry and the layout of supporting tourism land, strengthen the service capacity of industrial supporting facilities, reduce service costs, and enhance tourists' travel experience. The tourism resources in the key development areas are relatively poor, and the layout of tourism land in the unit is more reasonable, so it is suitable to increase the construction of tourism facilities scientifically on the basis of revitalising the tourism land.

(2) Raising the construction access threshold, and rationally plan the traffic road network and convenience facilities in the area

At this stage, rural leisure tourism needs to optimise the diversified forms of investment and development. Aiming at the problem of weak tourism development conditions in weakened and moderately developed areas, it is urgent for the government and the market to participate in the construction of tourism development facilities. Relying on the existing tourism talent forums and relevant tourism regulations, we regularly train corresponding tourism industry practitioners for each village system to improve the skills and service levels of rural tourism management personnel in priority development and key development areas.

(3) Based on geographical advantages, link internal and external resources through "people"

Implementing intellectual support for tourism planning and management, the "siphon" effect means that during the growth period, cities in the central region mainly rely on the accumulation of peripheral production factors to develop, and peripheral towns or small and medium-sized towns gradually agglomerate to the central city. On the basis of maintaining the advantages of natural scenery and leisure vacation. This will have an impact on the development of small and medium-sized cities in the region. Under the hollowing out of the countryside and the "siphoning" effect of the city on talent, it is not conducive to the communication of tourism industry management and management personnel of each unit in Miyun district, and it is difficult to form a unified and standardised management, thus affecting the tourist' image of the tourist attractions in each unit.

Conclusion

Ecotourism is in the stage of rapid development, but the rapid development of tourism has caused increasingly irreversible damage to the environment. As the basis for the development of tourism, tourism land planning is directly related to the harmony of the tourism land ecosystem. The evaluation of land ecological suitability for tourism land is beneficial to fundamentally realise the protection of land resources. Therefore, it has high

application value to evaluate the ecological suitability of tourism land from the perspective of the combination of ecological protection and economic development. Ecosystem service value and sustainable rural tourism complement each other, therefore, this study covers the theoretical understanding of ecosystem service value and sustainable tourism and focuses on research on the evaluation system of rural sustainable tourist land based on ecosystem service value. The evaluation model is examined using association rules and analytic hierarchy process in the method section. Finally, it has been discovered that the ecosystem service value can encourage the long-term development of rural tourism, and that the long-term development of rural tourism may improve the ecosystem service value.

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