Research Article

Development Potential Evaluation for Land Resources of Forest Tourism Based on Fuzzy AHP Method

Shizhen Cao (iD)

College of Civil Engineering and Architecture, Guilin University of Technology, Guilin, Guangxi 541004, China

Correspondence should be addressed to Shizhen Cao; 2013003@glut.edu.cn

With the development of modern economy and society, people have higher and higher requirements for spiritual needs request. The demand of traveling is a key growth point of the people's spiritual needs. Forest tourism has become an important part of the forestry modernization. Its reasonable development can provide a site for urban residents' leisure and health preservation, and help the revitalization of local villages and economic development. However, there are few studies on the evaluation methods of forest tourism land resources potential development around the world nowadays, and the planning and development of forest land resources are also lack of scientific guidance. The research work of this paper is carried out based on the realistic problems above, through analyzing the characteristics of the land resources of forest tourism, carding the main indicators of forest land resources development value, and fuzzy analytic hierarchy process (AHP) is studied to evaluate its development potential. The relevant conclusions can provide a theoretical guidance for the forest land resources development and planning, which will improve the development quality and effect of forest land resource.

1. Introduction

Land is the material basis of human survival and development. Different land types in different regions have different application ways. Nowadays, the technology and economy are highly developed, and people's material and cultural level is gradually improved.

As a nonrenewable resource, the quantity of land is limited. In order to satisfy people's demands, land resources should be integrated to satisfy people's needs effectively [1, 2]. How to reasonably develop and utilize land resources, to ensure the sustainable utilization of land resources has become the focus of people's growing concern. A reasonable evaluation of the development potential of land resources is an effective means to ensure the efficient use of land resources. Land evaluation is the basic work to coordinate the contradiction between man and land, make rational and efficient use of land resources, and promote the scientific development of social economy. It is an important basis for the study of land development and development strategy, and a basic means to coordinate regional land development and land protection

and realize the sustainable development of land resources. Land evaluation should first make a comprehensive investigation of the existing land-use status and scientifically evaluate its land-use potential, so as to provide a basis for further land grading or various land development and utilization. In the process of land evaluation, the weight of evaluation indicators has a crucial impact on the evaluation results. How to choose the best method to weight indicators is the key to comprehensive evaluation.

Land evaluation provides a basis for the scientific compilation of the overall plan for land use and the rational development, utilization, renovation, and protection of land resources [3, 4]. In recent years, land evaluation has developed from single evaluation index to multi-index comprehensive evaluation. The comprehensive evaluation method of establishing the evaluation index system has been gradually accepted by scholars and land workers. In the process of comprehensive evaluation, determining the weighing values of assessment indexes is an important link, which affects the authenticity, objectivity of evaluation results in a certain extent, and affects the revision and

implementation of general land-use planning, development and consolidation planning after the implementation of the efficiency evaluation work. At present, the commonly used method of land development potential evaluation which determines the weighing values for assessment index are variety, affects the comparison and application of evaluation results. Based on this, the method of determining land development potential evaluation index weight is taken as the research object, for realizing the target of determining the weighing values of assessment indexes more rationality, pertinence, and accuracy [5, 6].

Forest tourism as a new tourism industry in recent years, forest tourism is a low carbon industry that can take into account ecological, economic, and social benefits. Under the current situation of great threat to resources and environment, it is widely recognized and highly valued by all walks of life. At present, the limited land resources and land resources development potential evaluation of forest tourism resources are the main factors affecting the rapid development of forest tourism. In order to improve the quality and efficiency of forest tourism resources development and utilization, in this paper, the characteristics and the development of land resources of forest tourism demand research, combining with the characteristics of forest land resources influence were analyzed the key indicators of forest tourism development potential of land resources, the research about using fuzzy AHP to evaluate forest tourism land resources development potential. The forest tourism land resources development potential evaluation in a certain area is taken as a research object, using the method of using fuzzy AHP to evaluate the forest tourism land resources development potential in the region, to get a scientific and reasonable development plan, which verify the correctness and validity of the method of forest tourism land resources development potential evaluation researched in this paper [7, 8].

Figure 1 shows that the main structure of this paper, which includes (1) Introduction—analysis of the connotation of land resources development and evaluation, significance and current the shortage of land resources development potential evaluation method, and the main research content and purpose are pointed out. (2) Related work—the evaluation methods of forest tourism land resources development potential of are introduced briefly. (3) Case analysis—forest land resources development potential evaluation in a certain area is taken as the research object, several key indexes effect forest tourism land resources development potential are analyzed, and the method of fuzzy AHP is studied in this paper. The fuzzy AHP method is used to evaluate forest tourism development potential of land resources in the region. After the application of this method, it has improved the quality of the region tourism resources development level. (4) Conclusion—summarizing the work and getting some beneficial conclusions, which are used to guide the forest tourism land resources development potential evaluation.

2. Related Works

Forest tourism can strengthen the construction of local ecological civilization, improve the quality of national life,

change the mode of forestry development, and improve the extensive development mode. It has gradually become one of important components of modern economic development [9, 10].

2.1. Introduction of Forest Tourism. Forest tourism is a kind of tourism activity that takes good forest landscape and ecological environment as the main tourism resources and uses the multiple functions of forest and its environment. In a narrow sense, forest tourism refers to various recreational activities that people carry out in their spare time with the forest as the background, including camping, picnic, mountaineering, snow watching, bird watching, skiing, hunting. While in a broad sense, forest tourism refers to various activities in the forest and forms of outdoor recreation, includes forest zone bus, horseback riding, boating, walking, hiking, skiing, camping, picnic, hunting, fishing, drifting, get-togethers, adventure, photography, sightseeing and scientific research. According to the introductions above, it shows that forest tourism connotation is rich and variety [11, 12].

Forest leisure tourism industry is an important part of forest tourism development, and it also is also one of the most important factors effects development the development potential of forest tourism land resources.

2.2. The Connotation and Theoretical Basis of Forest Tourism Industry. Along with the development of society and economy, people's pursuit of spiritual life is stronger and stronger [13, 14]. Forest leisure tourism is one of the important ways to enrich the spiritual life, the concept of forest leisure tourism, and was created in 30 years of the twentieth century from western developed countries. In order to get rid of the crisis, the New Deal's promoting national consumption leisure policy is put forward in the first time. Then, Britain, France, and other countries to follow suit and derived a paid vacation system gradually, and a series of relatively complete system of regulating the relationship between work and leisure life [15, 16].

Forest leisure tourism industry with the rising popularity of forest leisure tourism activities and formed by high-speed development, can not only realize the leisure entertainment, relaxation psychosomatic, healthy ecological and unique characteristics of tourism, and the pursuit of economic development, environmental protection, and cultural inheritance of the integration of economic and social functions [17, 18]. From the perspective of the concept of forest leisure tourism, forest leisure tourism industry involves the modern forestry and involves the tourism and leisure industry. From the perspective of modern forestry, forest leisure tourism belongs to the third industry; its development needs certain material base and the corresponding development momentum.

Rich forest landscape resources and good ecological environment are the material basis for the development of forest leisure tourism industry. The upgrading of tourism consumption structure is the external driving force for the rapid development of forest leisure tourism industry. The
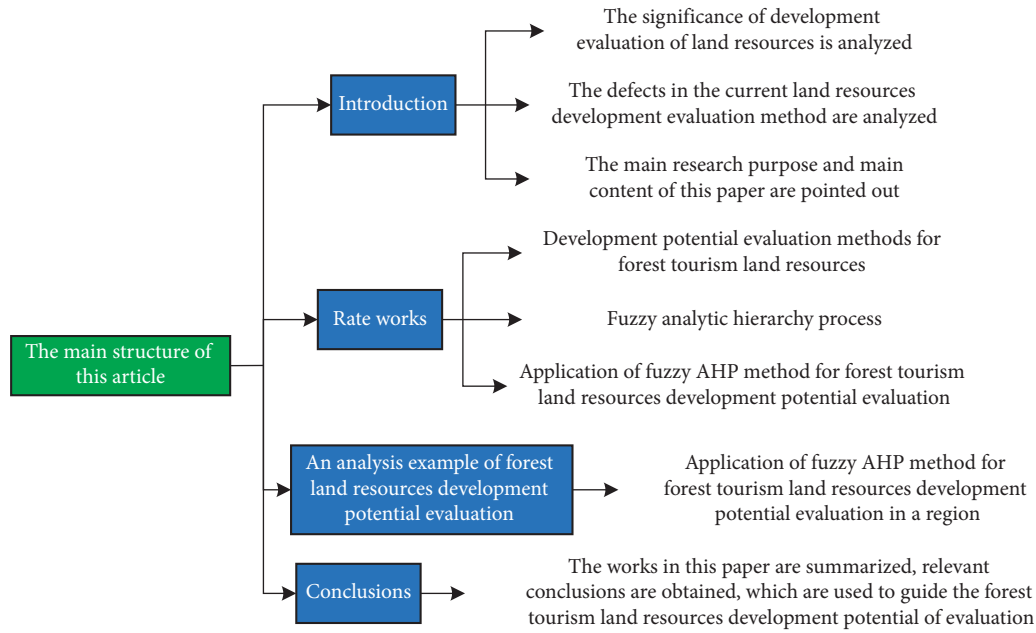
FIGURE 1: The main structure of this paper.

transformation of tourism industry is the internal driving force for the development of forest leisure tourism industry [19, 20].

Figure 2 shows the reality basis of forest tourism industry development.

Figure 2 shows that the development of forest tourism industry reality basis consists of three main factors as the material basis, external motivation, and intrinsic motivation [21, 22]:

(1) Material base rich in forest tourism landscape resources, and good ecological environment is the material base forest leisure tourism industry development. According to the United Nations organization to release the global forest resources assessment report showed that most of the countries in the world, forest area of the land area is about 20%, with a total area of 195 million hectares of forest resources in China. As of 2021, China's forest park a total area of about 21.3 million hectares, as an important area of forest park forest leisure tourism, its area is about 11% of the total area of forest resources. Plenty of forest tourism landscape resources and rare animals and plants resources of tourism value are not reasonably used and fully developed, forest leisure tourism industry has a broad space for development. As we all know, the reasonable development of forest resources not only can form unique tourism landscape resources, also can create a good ecological environment, and reduce the emissions of greenhouse gases, improve air quality, the most important way to reduce the pollution of the environment. Good ecological environment, excellent air quality, low noise pollution, and a large number of negative ions and plant essence is an important resource base

forest leisure tourism industry, is also a modern leisure tourists' ecological tourism, health, leisure focus on core value.

(2) External power—the tourism consumption structure upgrade is the external driving force of the development of the forest leisure tourism industry. With the rapid development of social economy, people's leisure time increases, improve the income level, the transformation of the consumption structure is more and more high to the requirement of leisure tourism products and services. Forest tourism scenic area as one of the main places of people leisure, it not only needs the scenic spot has a perfect service system with high scenic resources, also need to have higher tourism environment and plenty of space.

(3) Intrinsic motivation—the transformation of tourism industry is the inner motive power of forest leisure tourism industry development. Tourism industry transformation is an important evaluation index as also is traveling scenic area income structure. Our country tourism income's main source are tickets, catering, accommodation, transportation, entertainment, shopping, and so on, income proportion is very low. Ticket sales is a major source of income; most of the scenic spots are main source of tourist income and to improve the scenic spot ticket prices is needed as the main measure for this. Forest leisure tourism industry is the basis of plenty of forest landscape resources, good ecological environment is the condition needed to provide a large number of leisure entertainment services and health as the means both to meet the needs of relaxers healthy leisure, happy experience, and can meet different consumer groups consumption level. Forest leisure
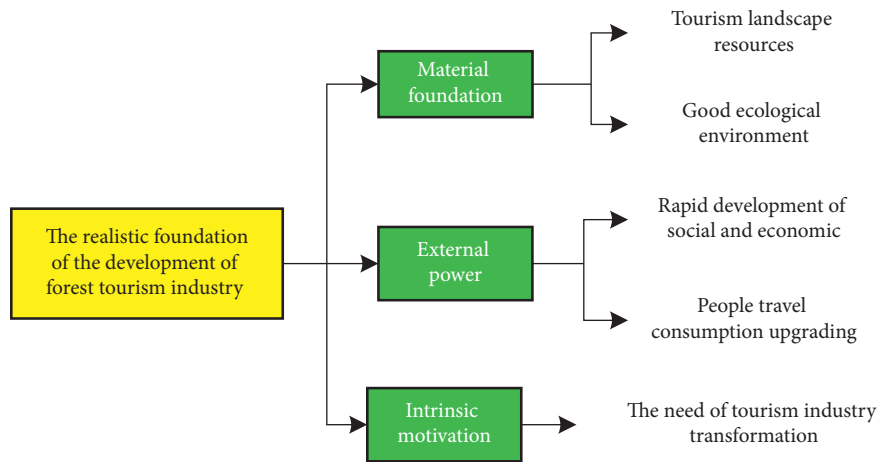
FIGURE 2: The reality basis of forest tourism industry development.

tourism development has to get rid of the tourism industry dependence on "tickets economy." The important way to promote tourism industrial upgrading and to improve the quality of tourism, the tourism industry structure adjustment is the inner motive power of forest leisure tourism industry development.

From the perspective of the tourism industry, forest leisure tourism industry is an industry that relies on forest tourism resources and facilities to attract and receive tourists and provide tourists with comprehensive services such as transportation, sightseeing, accommodation, catering, shopping, entertainment. The tourism industry is not a single industry, but an industry group, for tourism activities to provide products and services by many industry departments, diversity, and dispersion. It mainly includes the scenic spot management, travel and hotel services, catering services, transportation, entertainment, and many other industries. The industry also provides the service for local residents, which is difficult to define industry only services to leisure travelers. This industry contains both the local residents in tourism statistics of consumption and also includs a long-distance leisure traveler at the destination of consumption. Different industries are in the process of tourism activities involving different degrees. Whether they provide products and services for tourism industry, or for both tourists and also for the local residents, in the process of tourism is indispensable. Tourism industry system, therefore, defines the standard it failed to reach a consensus on the border, and there is vagueness and uncertainty.

In general, forest leisure tourism industry is based on the forest tourism resources, travel agencies, modern information technology such as medium. In forest tourism, scenic area is needed to carry out wildlife viewing, recuperate, hunting, rafting, grass skiing, skiing, rock climbing, camping, hot spring bath and other activities. It is necessary that the tourists are provided convenient transportation, ecological accommodation, catering, entertainment, forest specialty shopping services such as leisure tourism industry. Therefore, forest tourism development potential of land

resources value is determined by multiple factors, but the forest tourism resources development level and scope are low. In order to improve the quality and the effect of the land development of forest tourism, the resources and the forest environmental economics theory was studied. A kind of forest tourism development potential of land resources evaluation methods was designed in this paper.

Resource economics [23, 24] is major research on the rational allocation of limited resources and the optimal use and coordination of resources and environment, and economic resources, resource intergenerational distribution, and realize the sustainable development of economic and social. There is a difference between natural resources and the combination of the relationship between natural resources and other economic elements in time structure, spatial structure and industrial structure evolution and the concrete embodiment of the respect such as constitute the allocation of resources in the real economy. Natural resources configuration follows the basic principles of economics principle, balancing economic, ecological, and social benefits, through some mechanism to realize the optimization and sustainable utilization.

Forest tourism land resources have a positive impact on social and economic development, ecological protection, and people's spiritual life. Therefore, the fuzzy AHP method can be used to sort out its key value indicators and evaluate its development potential.

2.3. The Theory of Fuzzy AHP. Fuzzy AHP is simply the combination of AHP and fuzzy evaluation method. AHP is a method of calculating weight, and fuzzy comprehensive evaluation method is a kind of comprehensive evaluation method to the problem. Fuzzy comprehensive evaluation and the AHP method will be used for weight assignment of each factor. The method is to solve the multiobjective, multifactor comprehensive evaluation problem of a kind of important means [25, 26].

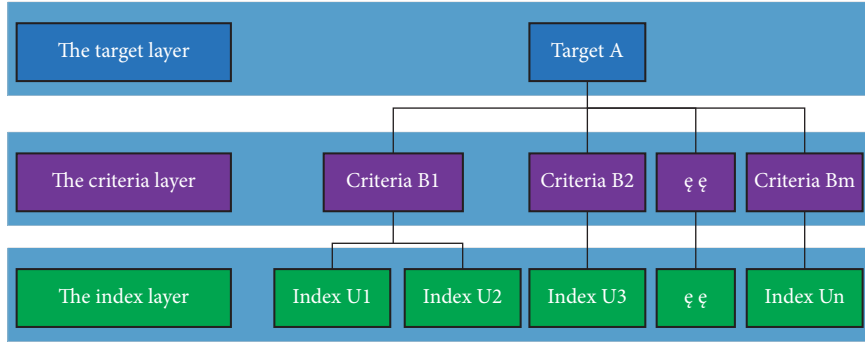The weighting calculation steps of AHP are shown in Figure 3.

FIGURE 3: The method of determining the index weight based on AHP.

Figure 3 shows that the main steps of determining index weight by AHP method [27, 28]. (1) According to the characteristics of the object of study, divide the target level, criterion level, and index level. (2) Compare at all levels the relative importance of each element, and accordingly determine index importance.

AHP [29, 30] can be expressed as a mathematical formula and determine the weights of factors with level of judgment matrix **A**.

$$\mathbf{A}_{n\times n}\left(a_{ij}\right)_{n\times n} = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{n2} \\ \vdots & \vdots & \vdots & \vdots \\ a_{n1} & a_{n2} & \cdots & a_{nm} \end{bmatrix}, \quad (1)$$

where a_{ij} represents the importance of the index i than index j, specific value can check in Table 1. The relationship between a_{ij} and a_{ji} as shown in formula (2):

$$a_{ji} = \frac{1}{a_{ji}}. \quad (2)$$

Indexes of each level are important and weights of experts are confirmed. Fill the level form of total sorts and levels. Among them, the single sort refers to every judgment matrix and the relative weight of each index for its standards. Steps are as follows: calculat weight to calculate the judgment matrix of the maximum characteristic root and corresponding eigenvectors, the largest eigenvalue of the matrix by solving consistency corresponding eigenvectors as weight vector [31–34].

(1) Calculate the elements of judgment matrix in every line of products M_i:

$$M_i \prod_{j=1}^{n} a_{ji} (i = 1, 2 \ldots, n). \quad (3)$$

(2) Calculate the nth root of each M_i:

$$\overline{W}_i = \sqrt[n]{M_i}. \quad (4)$$

(3) The characteristic vector normalization process obtains the corresponding weight coefficient:

$$W_i = \frac{\overline{W}_i}{\sum_{i=1}^{n} \overline{W}_i}. \quad (5)$$

TABLE 1: The judgment matrix scale method (This Table is reproduced from Wang et al. 2022 [https://www.hindawi.com/journals/cin/2022/3514285/]).

Scale	Definition
1	Two factors are equally important
3	The ith index is slightly more important than the jth index
5	The ith index is more important than the jth index
7	The ith index is obviously more important than the jth index
9	The ith index is extremely more important than the jth index
2, 4, 6, 8	Between the two adjacent judgment value

(4) consistency check, the purpose of the judgment matrix constructed is reasonable; calculate the maximum characteristic root judgment matrix.

$$\mathbf{AX} = \lambda_{\max}\mathbf{X}, \quad (6)$$

where **X** is the judgment matrix characteristic root $\lambda_{\max}$ that corresponds to the largest eigenvector:

$$\lambda_{\max} = \frac{1}{n}\sum_{i=1}^{n}\frac{(BW)_i}{W_i}. \quad (7)$$

(5) Compute consistency evaluation index:

$$CI = \frac{\lambda_{\max} - n}{n - 1}. \quad (8)$$

(6) Calculate the consistency ratio:

$$CR = \frac{CI}{RI}. \quad (9)$$

In formula (9) RI values are shown as in Table 2.

Combining calculation formula (9) and Table 2, we get the consistency ratio CR. If CR < 0.1, then judgment matrix satisfies the requirement of consistency, or need to adjust the judgment value through the consistency check.

(7) Compute hierarchy total sorts, and it refers to the level relative to the total target weight coefficient, and the importance of targets at the same time need to

TABLE 2: The value of RI (This Table is reproduced from Wang et al. 2022 [https://www.hindawi.com/journals/cin/2022/3514285/]).

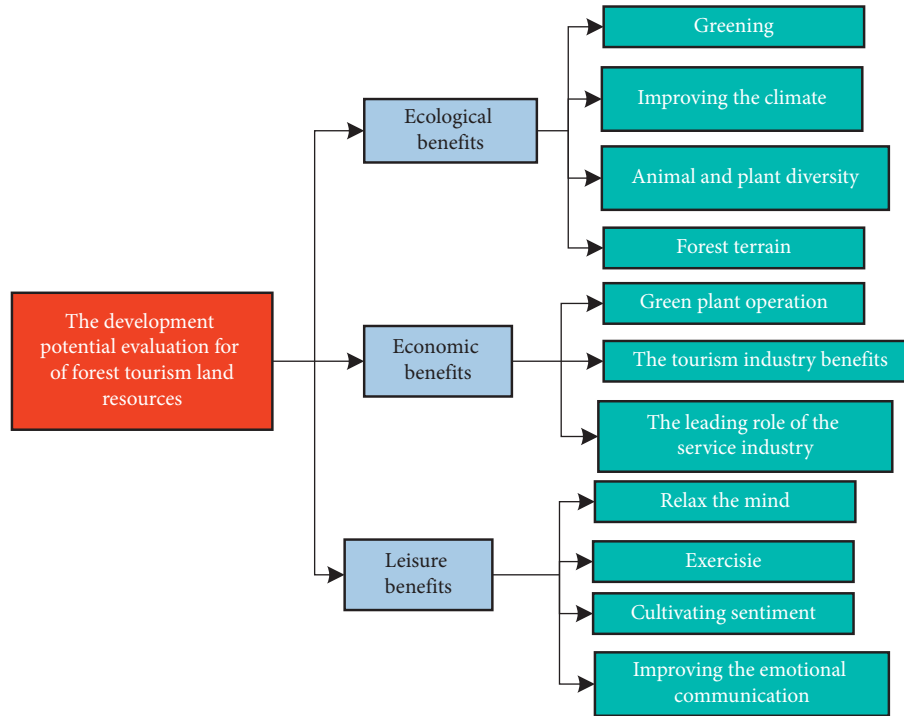| n	1	2	3	4	5	6	7	8	9	10	11	12
RI	0	0	0.58	0.9	1.12	1.24	1.36	1.41	1.46	1.49	1.52	1.64

FIGURE 4: The evaluation level of forest tourism land resources development potential.

check the consistency of the combination. Calculation formula is:

$$\text{CRR} = \frac{a_1\text{CI}_1 + a_2\text{CI}_2 + \cdots + a_m\text{CI}_m}{a_1\text{RI}_1 + a_2\text{RI}_2 + \cdots + a_m\text{RI}_m}. \tag{10}$$

If the CRR < 0.1, explain level total sorts through the consistency check.

2.4. Application of Fuzzy AHP Theory in the Evaluation of the Development Potential of Forest Tourism Land Resources Land. Based on the relevant theories of fuzzy AHP introduced in Section 2.3 and combining with it the characteristics of forest tourism land resources development and analysis for the influencing factors of forest tourism development potential of land resources mainly include ecological benefit, economic benefit and leisure benefits three big aspects, its development potential evaluation hierarchy model are as shown in Figure 4.

Figure 4 shows the application of AHP in the forest tourism land resources development potential evaluation, which is divided into two levels. Among them, in the first level, its decision and the development potential can be divided into three decisive factors, which are the ecological benefits, economic benefits, and leisure benefits. In the second level, in view of the forest tourism land resources development, the factors correspond to the forest ecological benefits and are greening, the improvement of the climate, animal and plant diversity, and forest terrain. The factors correspond to economic benefits and they are green plant management, the tourism industry efficiency, and service industry leading role. The factors correspond to leisure benefits are relaxing the mind and exercising, cultivating sentiment, and increasing the emotional communication.

Through consulting relevant experts in the field of land resources development, forest tourism evaluation is carried out. It is concluded that the relationships of forest tourism land resources development potential evaluation are the following: (1) In the first level, leisure benefit is more important than economic benefits, is more important than ecological benefits. Economic benefit is slightly more important than ecological benefits. (2) In the second level, the aspects of ecological benefits are considered: forest terrain is more important than improving climate, is much more important than greening, more important than plant and animal diversity. Climate improvement is more important than greening, obviously more important than plant and animal diversity. Greening is slightly more important than

animal and plant diversity. The aspects of economic benefit, the tourism industry benefits significantly more important than the leading role of service industry, slightly more important than green plant operation. The leading role of service industry is more important than the green plant operation. The aspects of leisure benefits, relaxing the mind is more important than exercise, obviously more important than cultivating sentiment, is extremely more important than increasing emotional communication.

Comprehensive from above and combined with the theory of fuzzy AHP introduced in Section 2.3, the evaluation matrix of level 1 and level 2 can be established, respectively, such as formulas (11)–(14):

$$A = \begin{bmatrix} 1 & 5 & 7 \\ 1/5 & 1 & 3 \\ 1/7 & 1/3 & 1 \end{bmatrix}, \quad (11)$$

$$B_1 = \begin{bmatrix} 1 & 5 & 7 & 8 \\ 1/5 & 1 & 5 & 7 \\ 1/7 & 1/5 & 1 & 3 \\ 1/8 & 1/7 & 1/3 & 1 \end{bmatrix}, \quad (12)$$

$$B_2 = \begin{bmatrix} 1 & 7 & 8 \\ 1/7 & 1 & 5 \\ 1/8 & 1/5 & 1 \end{bmatrix}, \quad (13)$$

$$B_3 = \begin{bmatrix} 1 & 5 & 7 & 9 \\ 1/5 & 1 & 3 & 8 \\ 1/7 & 1/3 & 1 & 7 \\ 1/9 & 1/8 & 1/7 & 1 \end{bmatrix}. \quad (14)$$

Referring to the calculation method of AHP introduced in Section 2.3, the weight proportion of two levels of forest tourism land resources of each index value can be obtained, respectively. As formulas (15)–(18) shown below:

$$\mathbf{a}_1 = \begin{bmatrix} a_{11} & a_{12} & a_{13} \end{bmatrix}^T = \begin{bmatrix} 0.7306 & 0.1884 & 0.081 \end{bmatrix}^T, \quad (15)$$

$$\mathbf{b}_1 \begin{bmatrix} b_{11} & b_{12} & b_{13} & b_{14} \end{bmatrix}^T = \begin{bmatrix} 0.6335 & 0.2449 & 0.0795 & 0.0421 \end{bmatrix}^T, \quad (16)$$

$$\mathbf{b}_2 \begin{bmatrix} b_{21} & b_{22} & b_{23} \end{bmatrix}^T = \begin{bmatrix} 0.7633 & 0.1783 & 0.0583 \end{bmatrix}^T, \quad (17)$$

$$\mathbf{b}_3 = \begin{bmatrix} b_{31} & b_{32} & b_{33} & b_{34} \end{bmatrix}^T = \begin{bmatrix} 0.6362 & 0.2154 & 0.1152 & 0.0332 \end{bmatrix}^T. \quad (18)$$

The above formula, a_1, b_1, b_2, and b_3 are the weight vectors of forest tourism land resources development potential evaluation after dismantling the various levels of index, respectively. $a_{11}a_{12}$, a_{13} represent the index weight values of leisure benefits, economic benefits, and ecological benefits in the first level. b_{11}, b_{12}, b_{13}, b_{14} represent the index weight values of forest terrain, climate, improvement, greening and of plant, and animal diversity corresponding to ecological benefits in the second level. b_{21}, b_{22}, b_{23} represent the index weight values of tourism industry, service
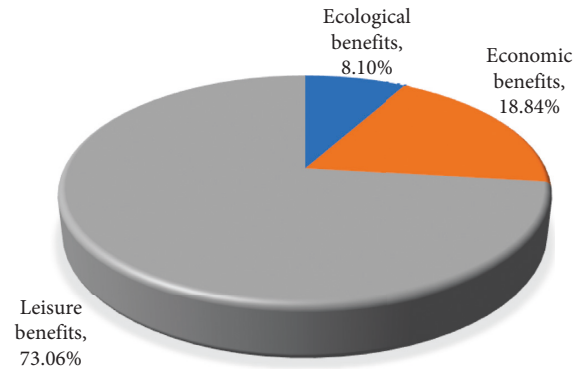

FIGURE 5: The index weight of forest tourism land resources development potential in the first level.

industry's leading role, and green plant management corresponding to economic benefits in the second level. b_{31}, b_{32}, b_{33}, b_{34} represent the index weight value of relax the mind and exercise, cultivate sentiment, and to increase emotional communication corresponding to leisure benefits in the second level.

Figures 5–8 show the two levels of main indexes in the percentage of the corresponding level of the forest tourism land resources development potential evaluation, respectively.

According to Figures 5–8, after application of fuzzy AHP to evaluate forest tourism land resources development potential, it shows that (1) The key indicators of forest tourism land resources development potential are classified and hierarchically processed. (2) The weight value of each key index is not identical at different levels. (3) Leisure benefits are the most important factor of forest tourism land resources development potential, and its main factors contain economic benefits and ecological benefits.

3. Case Analysis

A moderately developed secondary cities [35, 36] in southern China's forest tourism development is taken as a research object. In recent years, with the vigorous development of forest tourism industry, the forest tourism park attracts people all over the world to tourism consumption, which has made a great contribution to the local economic and social development and the improvement of people's living standards. It has accumulated much valuable experiences for forest tourism development and utilization of land resources. Forest tourism land resources in the region is rich; it has a good development of forest tourism industry. Future forest tourism industry development in the location should be considered and alternative development potential be evaluated, and reasonable development plan be established.

3.1. Development Potential Calculation. Based on the relevant research results of Sections 2.3 and 2.4, the overall weight values of key indicators of the land for forest tourism
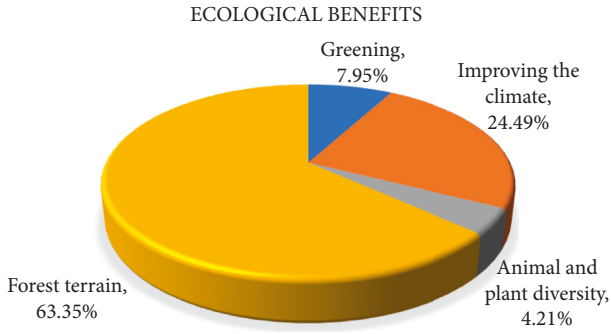
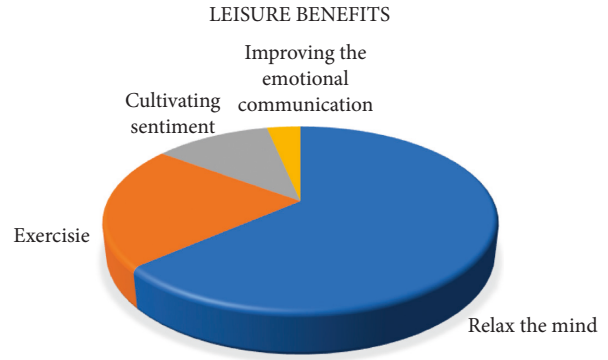FIGURE 6: The weight of each index corresponding to ecological efficiency in second level.
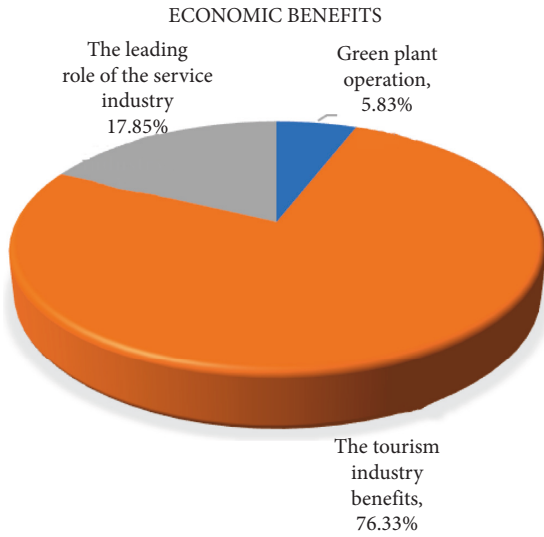

FIGURE 7: The weight of each index corresponding to economic efficiency in second level.

resources development potential evaluation in the second level can be calculated as given in formulas (19)–(21):

$$u_1 = a_{11} \times b_1 \begin{bmatrix} u_{11} \\ u_{12} \\ u_{13} \\ u_{14} \end{bmatrix} \tag{19}$$
$$= \begin{bmatrix} 0.0064 & 0.01983 & 0.00341 & 0.051316 \end{bmatrix}^T,$$

$$u_1 = a_{12} \times b_2 \begin{bmatrix} u_{21} \\ u_{22} \\ u_{23} \end{bmatrix} \tag{20}$$
$$= \begin{bmatrix} 0.010984 & 0.143806 & 0.033592 \end{bmatrix}^T,$$

$$u_3 = a_{13} \times b_3 \begin{bmatrix} u_{31} \\ u_{32} \\ u_{33} \\ u_{34} \end{bmatrix} \tag{21}$$
$$= \begin{bmatrix} 0.46481 & 0.15737 & 0.084165 & 0.024256 \end{bmatrix}^T.$$

FIGURE 8: The weight of each index corresponding to leisure efficiency in second level.

In above formulas, u_1, u_2, u_3 are the indexes overall weight vectors of forest tourism land resources development potential evaluation, which correspond to ecological benefits, economic benefits, and leisure benefits in the second level, respectively. u_{11}, u_{12}, u_{13}, u_{14} represent the overall weight values of forest terrain, climate improvement, greening, and plant and animal diversity corresponding to ecological benefits in the second level. u_{21}, u_{22}, u_{23} represent the overall weight values of tourism industry, service industry's leading role and green plant operation corresponding economic benefits in the second level. u_{31}, u_{32}, u_{33}, u_{34} represent the overall weight values of relax the mind and exercise, cultivate sentiment, and increase emotional communication corresponding to leisure benefits in the second level.

Figure 9 shows the index weight values of forest tourism land resources development potential in the second-level evaluation.

Figure 9 shows that weight value of each key index, which affects forest tourism land resources development potential is different. Among them, to relax the mind is the most important function of forest tourism, so its overall weight value is maximum in the land of forest tourism resources development potential evaluation.

According to the above introduction, the region still has many places worthy of further development and utilization of forest resources. Two forest land are picked, the fuzzy AHP method researched in this paper is used to evaluate their development potential, which provides a guidance for subsequent land resources for tourism development. According to the need of forest tourism development in the region, the local government decided to take two forest land as alternative development.

Through on-the-spot investigations and consulting related experts, the key indexes overall weight values of development potential of two alternatives are shown in Figure 10.

Figure 10 shows that (1) The characteristics of two forest tourism alternatives are different; they all have different strengths and weaknesses. The score of each key index is also different. (2) Scores of the key indexes of two alternatives are the factors to determine the development plan of forest tourism in the basic foundation of land development.
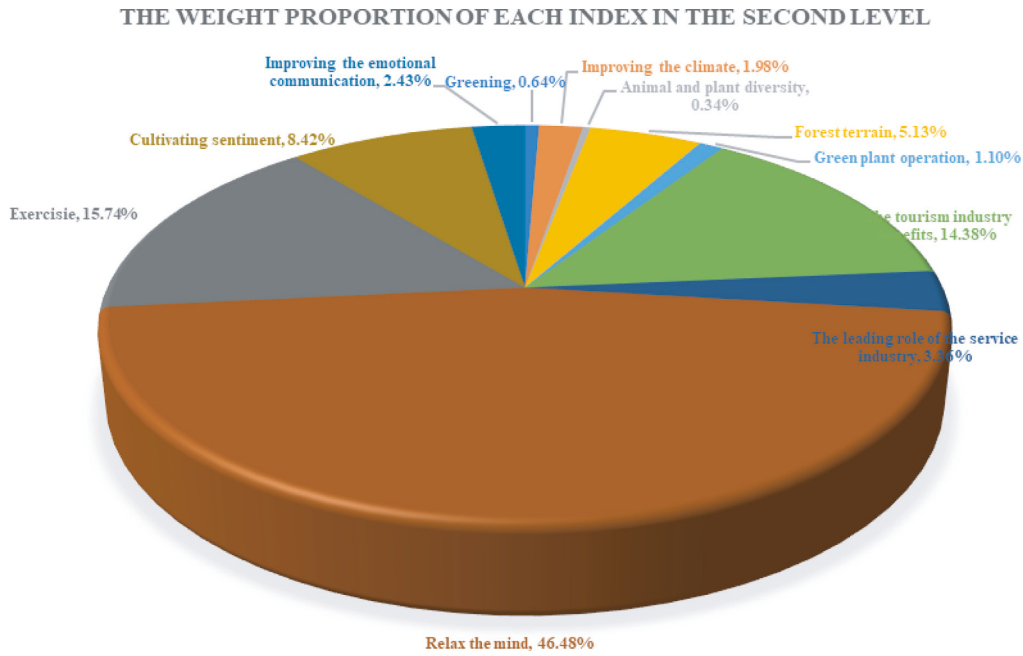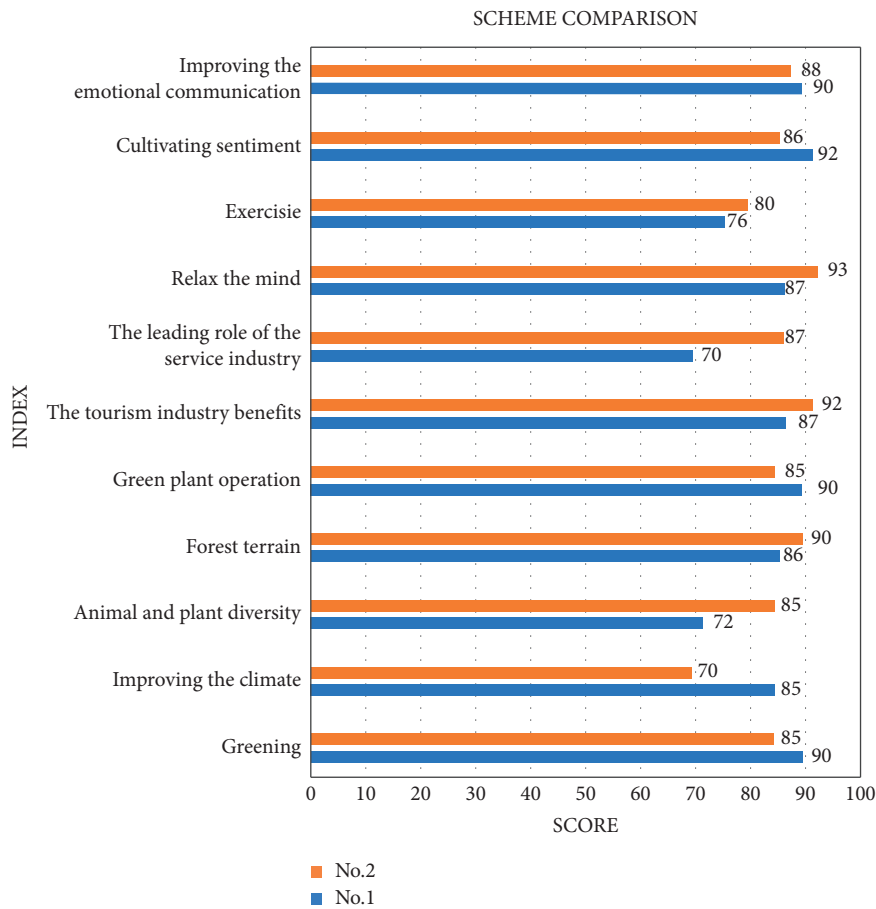
THE WEIGHT PROPORTION OF EACH INDEX IN THE SECOND LEVEL

FIGURE 9: The weight proportion of each index in the second level.

SCHEME COMPARISON

FIGURE 10: Score comparison of the key indicators of two alternatives.

THE SCORES OF EACH INDEX IN THE FIRST
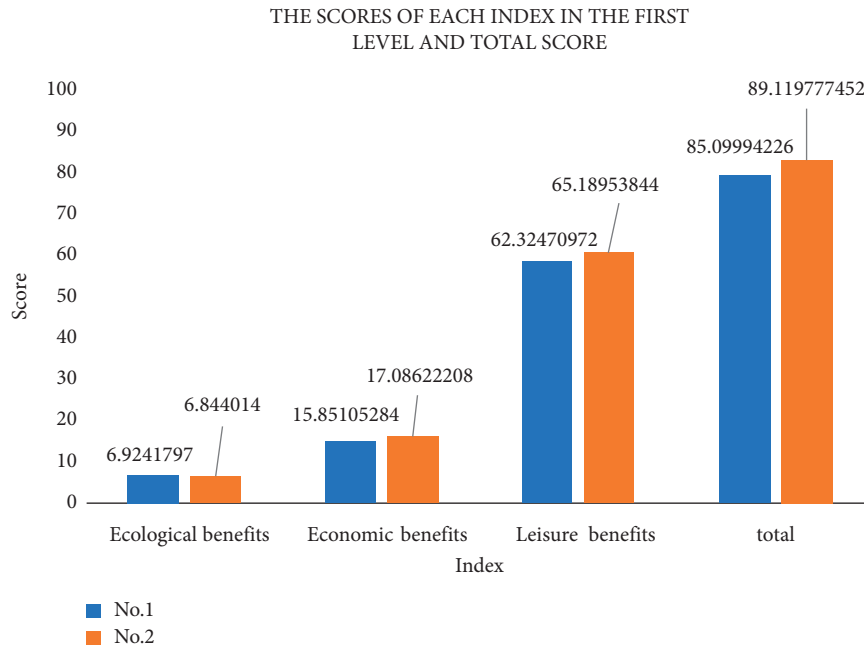LEVEL AND TOTAL SCORE

FIGURE 11: The score of each index in the first level and total score.

Simultaneous equations (15)–(21) represent the two alternative developments of forest tourism resources to the first level indicators and integrated scoring. Figure 11 shows the two alternative developments of forest tourism resources in the first-level indicators and integrated scoring contrast situation.

Figure 11 shows that (1) the overall total scores of two alternatives to forest tourism development are 85.1 and 89.1, respectively, which indicate that alternative No. 2 is better than the alternative No. 1, and alternative No. 2 has development priorities. (2) Score of each key index of two alternatives to forest tourism development in the first level are not identical. The index of leisure benefits is the most important factor in the total score of alternatives to the overall. (3) The ecological benefits of alternative No. 1 is superior alternatives No. 2, and the other two key indicators score of alternative No. 1 is less than the alternative No. 2.

4. Conclusion

The development of forest tourism has a great influence on urban residents' life and the city's economic development. With the rapid development of social economy, people have higher and higher request for the spiritual life. Forest tourism as a good place to comfort life stress, relieve the mood, and strengthen the body. Its development has attracted attention from related experts and scholars. In this article, by combing and analysis of the current forest tourism land resources development situation and development potential evaluation, it is concluded that: (1) The forest tourism industry is at the stage of high-speed development, but its development quality is low. Forest tourism land resources development potential evaluation method is one of the key factors affecting the development of forest tourism industry. But there is few published literature research on it.

(2) In order to help people to improve the ability of forest tourism land resources development potential evaluation, the method of application of fuzzy AHP in the forest tourism land resources development potential evaluations is studied in this paper. The key indexes affect forest tourism land resources development potential that are decomposed, and use fuzzy AHP method to determine the weight of each index matrix and calculate their weights. (3) The development potential of forest tourism land in a certain area is calculated as an example, and the method of application of fuzzy AHP studied in this paper is used to calculate two alternative land of forest tourism development potential, which verified the validity and the correctness of the evaluation. It shows that fuzzy AHP method is worth popularizing in the land development potential evaluation of forest tourism.

Data Availability

The data used to support the findings of this study can be obtained from the author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest or personal relationships that could have appeared to influence the work reported in this paper.

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