

THE EVALUATION AND ANALYSIS OF THE TOURISM RESOURCES IN JILIN PROVINCE

YU Tao-fang, GU Chao-lin, WANG Hong, DUAN Xue-jun, YI Xiao-feng

(*Department of Urban and Resources Sciences, Nanjing University, Nanjing 210093, P. R. China*)

ABSTRACT: This paper comprehensively evaluates and analyzes the tourism resources in Jilin Province, China. And it consists of three parts. The first two parts are on the resources evaluation and analysis. Based on the results of evaluation about the structural and spatial distribution of the tourism resources, it is found that, the natural resources play fundamental roles in Jilin, while the human and cultural resources are important complementary parts as well. In the spatial distribution analysis, the resources show the characteristic of “six clusters” and “three belts” spatial relations. Four clusters are centered on the cities, which are Changchun, Jilin, Baicheng, Tonghua and Ji'an; one cluster is around the Changbai Mountains and one cluster nears the frontier at Tumen between China, Russia and P. D. R. Korea. And the three belts are: 1) The west belt. It contains Xianghai and Momoge natural protection region. The evident of this zone is its ecological and ethical tourism resources. 2) The middle belt characterized by urban traveling and recreation, including Jilin and Changchun, together with their nearby Nong'an and Siping. 3) The last belt is also the most important one, which is the east zone. It covers the Changbai Mountains, the golden triangles of Tonghua and the Tumen River. This zone is remarkable for its abundant natural landscapes and unique folk-customs. In the last part the concept planning is briefly constructed for the tourism resources in Jilin Province according to the above evaluation and analysis.

KEY WORDS: tourism resources; resources evaluation; structural and spatial analysis; concept planning; Jilin Province

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1 INTRODUCTION

The comprehensive evaluation and analysis of regional tourism resources is the first step for the tourism zoning and planning. The field of tourism resources evaluation started with quantitative analysis in the 1970s abroad. While in China, it is not until the late 1980s before the evaluation was paid attention to. But different from the abroad, it was mainly on qualitative description in China. Recently the geographers on tourism have started to explore more reasonable methods to be applied to the evaluation, and then gradually from purely qualitative descriptions to the combination of qualitatively description and quantitative analysis. In China, the interrelated researches are mainly limited to the evaluation of the tourism resources. And the analysis of the outcomes of the evaluations is relatively weak, lack of detailed and holistic analysis, especially on the side of the spatial analysis (GUNN, 1999; BAO, 1999; LI *et*

al., 2000; LI, 2000; SONG *et al.*, 1997).

Focused on the evaluation and analysis of tourism resources in Jilin, this paper is mainly composed of three parts. 1) The first part is the evaluation of the tourism resources; 2) the second part is the structural and spatial analysis of the tourism resources in Jilin; 3) based on the above two, inspired by the method and theories of concept planning in urban planning, the third part outlines the concept plan of the tourism resources in Jilin.

2 EVALUATION OF THE TOURISM RESOURCES IN JILIN PROVINCE

Owning to the long history and the unique natural environment, Jilin Province is rich in human and natural tourism resources. These include “the mountain-lake ecological landscape, the ice-snow winter spectacle, the folk-custom and the frontier scene”. In this paper, the

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Biography: YU Tao-fang(1974 –), male, a native of Shandong Province, doctoral candidate in Nanjing University. His research interests include urban and regional planning, urban competitiveness etc.

methods of analytical hierarchy process, fuzzy count analysis and Delphi are used in evaluating the developmental potency of the tourism resources in Jilin Province.

2. 1 Construction of the Indicator-System for Evaluation

Through consulting to the local experts and officers the judgment matrix is constructed ^①. The relevant tables are put into the computer to be dealt with. Thus comes the weight scores of each factor (Table 1). From the rankings of the weight scores, it shows that the factor of the resources condition has the biggest weight score, which is 0.657. This means that, to certain extent, the attractiveness of the resources can determine whether the exploitation can be well carried out. While the factors of tourism facilities and the environment conditions have smaller weight scores, respectively 0.140 and 0.201. They plays significant roles in the exploitation as well. Without the necessary supporting of the convenient tourism facilities and good environmental conditions, the tourism resources can not be developed smoothly. In other words, the resources condition can be seen as the determinant factor to the development, while the other two be seen influential factors.

2. 2 Evaluation of the Developmental Potency of the Tourism Resources

Using the method of fuzzy count analysis, each factor shown in Table 1 is classified into five levels. The first level, “excellent”, is evaluated a score between 0.8 to 1, and the second level, “very good” is between 0.6 to 0.8, then the “good” between 0.4 to 0.6, “fairly good” between 0.2 to 0.4, and the lowest level, “bad” is evaluated a score between 0 to 0.2. According to the classification, the score of each factor of the individual tourism spots come out. Finally comes the total score of each tourism spot (or area) with the aid of formula below:

$$A_{ij} = S_{ij} \cdot w_j, \quad A_i = \sum_{j=1}^n S_{ij} \cdot W_j$$

where A_i represents the total score of the tourism spot numbered i , A_{ij} represents the score of the factor numbered j of spot i . And w_j represents the weight score of the factor j , the S_{ij} represents the fuzzy coefficient of the tourism spot i .

With reference to the final result of the comprehensive evaluation, the tourism spots (or areas) with the total score from 74.8 to 100 have world-wide attractiveness. All of these tourism resources have great

Table 1 Parameters of quantitative evaluation of tourism resources of Jilin Province

Layer of goal	Comprehensive evaluation	Weight score	Item evaluation	Weight score	Factor evaluation	Weight score
Evaluation of the tourism resources in Jilin	Resources	66	Character of viewing	36	Enjoins	16
					Specialty	8
					Integrity	12
					Scientific investigation	4
					Scientific promulgation	3
			Culture values	23	Ethnology	10
					History and culture	8
					Sanatorium and entertainment	5
	Environment	14	Sight combination	10		
			Environment capacity	4		
	Tourism condition	20	Transportation and communication	6	Accessibility	4
			Access to the foreign tourisms	5	Safety	1
			Access to the national tourisms	5	Costs	1
			Room and board	2		
			Service and management	2		
	Total	100		100		72

① Among the experts or officers consulted, 5 persons took part in filling the table of the weight scores of each indicator shown in Table 1. Plus the 4 tables made by the planning team, there are 9 tables were made before the judgment matrix was constructed.

attraction both to home and abroad. Among these resources, those whose total score from 74.8 to 79.8 are classified to the class “II” world-wide attractiveness, while those above 79.8 to the class “I”. Likewise, those with total score from 72.1 to 74.8 are classified to the nation-wide attractive spots or areas. These resources have more attraction to the national tourists. Those with scores between 63.8 and 72.1 have attraction to the tourists around Jilin. While those with scores below 63.8 are considered only having certain attraction to the tourists within Jilin (Table 2).

3 STRUCTURAL AND SPATIAL ANALYSIS OF THE TOURISM RESOURCES

3.1 The Structural Analysis

Among the 45 tourism spots with total score more than 72.1, 24 are natural ones. And the others 21 belong to human tourism resources, including three skiing fields and one nature museum which also depend on the natural conditions. All of these show that the natural tourism resources including landscapes, waters and

Table 2 Evaluation results of the potential developing value of tourism resources of Jilin Province

Range of attractiveness	Potency score	Natural landscape	Cultural landscape
World-wide attractiveness	79.8 – 100	Changbai volcano, Tumen River, Tianchi, Changbai forest, Jilin rime	The tombs-group in Ji'an, the “three treasures” in Northeast China (ginseng, antler, Wulacao)
	74.8 – 79.8	Jinjiang valley in Changbai moutains, Changbai waterfall, Jinjiang fall, snow & ice in winter	The palace of puppet Manzu regime in Changchun, eight ministries of puppet Manzu regime, stele of Ji'an, frontier of the three-country in Huichun, Jilin meteoroid museum, Changchun movie-city, the skiing field in Jilin
Nation-wide attractiveness	72.1 – 74.8	Yichun volcano group, Nong'an mud-forest, Yalu River, Changbaishan hot spring, Xianghai Reservoir, Xianghai wetland, Momoge wetland, Songhua Lake, Huinan triangle lake, Jingyue Lake, Yueliangpao Lake, Chagan Lake, Xianghai-Momoge migratory bird, the west grassland	Yehe ancient city, Beishan ancient temple, Linguang pagoda, Wula Manzu town, the China-Korea frontier in Ji'an, natural museum in Changbai Mountains, the Korea folk-custom, Changchun car-museum, tomb of YANG Jing-yu, Jinchang skiing field in Tonghua, China-Korea frontier in Changbai Mountains, Manzu folk-custom in Yehe town, the Baijiyao skiing field in Tonghua, Tonghua wine
Atractiveness around Jilin	63.8 – 72.1	Tonghua Yayuan cave, Guama cave, Baishan Lake	Huguobanruo temple, Wen-temple, Balian city, Huadian Sumi city, Tomb of Wanyanxiyi, the Liudingshan ancient tomb, Aodong city, Longhu stone, Antu Korea folk-custom garden, Tonghua Songhua ink stone
Attractiveness within Jilin	63.8	Fusong Xianren cave	Ashi Hada monument, Songtuo monument, Jingang temple in Nong'an, Qianguo Tahu city, Helong west great wall, Meihokou stone sculpture, Nong'an temple festival, Beishan temple festival, Tonghua Yuhuang temple, Skiing fields in Songhua Lake, Jingyue Lake, Zhuque hill, Beishan and Qianyehu, Jilin chemical plant, the China-Korea frontier in Linjiang, Baishan Tumen, Longjing and Helong

biological sights, occupy the basic position of Jilin tourism resources. While the unique local ethnological architectures, historic sites, folk-customs, recreations and entertainments also are unignorable complementary parts to Jilin (Table 3).

3.2 The Analysis of the Spatial Distribution

3.2.1 The spatial distribution analysis of the development potency of the tourism spots

To be clearly observed, the spatial distribution of

the various tourism spots are shown in Fig. 1 according to their total scores.

(1) The characteristic of the “Six-clusters” spatial distribution of the tourism resources in Jilin.

From Fig. 1, we can see that the spatial distribution of the tourism resources with relatively more attractiveness has remarkable “clusters” characteristics. The six evident clusters are found as followings: four clusters are centered on the cities, which are Changchun, Jilin, Baicheng, Tonghua and Ji'an; one cluster is around the Changbai Mountains and one

Table 3 Rankings of the tourism developmental potency of each area in Jilin Province

Area	Score	Ranking	Area	Score	Ranking	Area	Score	Ranking
Jilin	3.13942	1	Qian'an	-0.18398	14	Yanji	-0.64627	19
Fusong	2.76067	2	Jingyu	-0.18398	14	Wangqing	-0.64627	19
Changbai	2.25478	3	Huinan	-0.18398	14	Songyuan	-0.64627	19
Changchun	1.98278	4	Da'an	-0.18398	14	Siping	-0.64627	19
Hunchun	1.40550	5	Qian Gorlos	-0.23319	15	Shuangliao	-0.64627	19
Ji'an	1.22898	6	Panshi	-0.29377	16	Longjing	-0.64627	19
Tonghua	1.06149	7	Jiaohe	-0.29377	16	Liuhe	-0.64627	19
Tongyu	0.71060	8	Antu	-0.29377	16	Liaoyuan	-0.64627	19
Linjiang	0.38810	9	Shulan	-0.37748	17	Jiutai	-0.64627	19
Huadian	0.35361	10	Nong'an	-0.53648	18	Helong	-0.64627	19
Zhenlai	0.27831	11	Meihekou	-0.53648	18	Gongzhuling	-0.64627	19
Lishu	0.27831	11	Fuyu	-0.53648	18	Dongfeng	-0.64627	19
Tumen	0.11082	12	Baishan	-0.53648	18	Dehui	-0.64627	19
Dunhua	-0.10868	13	Yushu	-0.64627	19	Changling	-0.64627	19
Yitong	-0.18398	14	Yongji	-0.64627	19	Baicheng	-0.64627	19
Taonan	-0.18398	14						

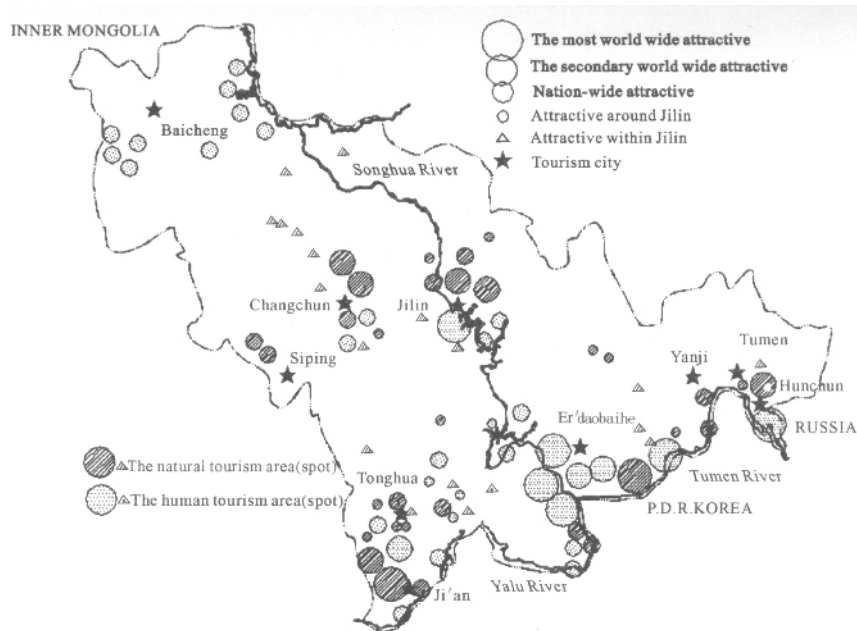


Fig. 1 The spatial structure of the tourism resources of Jilin Province

cluster is near the frontier at Tumen between China, Russia and P. D. R. Korea. Each of the six resources clusters has its own specialty. The cluster around Changchun City is characterized by ecological traveling (such as Jingyue Lake), colonial historic sites (such as eight ministries and place of puppet Manzu regime), movie culture, car-culture sighting and urban recreation etc. The cluster around Jilin is characterized by snow and ice spectacle, rime, meteorite museum, cultural relics and the historic sites, religion pilgrimage and other recreation and entertainments. The cluster around Tonghua and Ji'an is characterized by cultural relics and

historic sites left by Gaojuli, the Yalu River, the frontier between China and P. D. R. Korea, ice-snow recreation and forest park etc. The cluster around the Changbai Mountains is characterized by volcano physiognomy spectacle, snow-ice recreation, folk-customs and scientific investigation etc. The cluster around the Tumen River triangle stands out for its multi-ecological traveling, cross-border visiting, the Korea folk-customs and cultural relics and historic sites etc. The sixth cluster, which around the city of Baicheng is remarkable for its ecological traveling, birds-watching and the Mongolia grassland folk-customs.

The “cluster” spatial distribution increases the developmental potency of the whole tourism resources, and provides good conditions for planning and zoning of the tourism resources. While some other tourism spots (or areas), due to the deviation of the six clusters, have relatively bad spots combination degree and bad accessibility. Thus influences their nowadays even future exploitation, such as the Great-Jin Dynasty monument for the victory commemorates, the tomb groups of the Liudingshan and the tomb of Wanyanxiyi.

(2) The characteristic of the “three-belts” spatial distribution of the tourism resources in Jilin.

From the perspective of the whole spatial structure, we can sum up the six clusters into three “belts”. One is around the twin-cities of Changchun and Jilin. Besides the two clusters mentioned above, this belt also includes the Yehe ancient city, the Nong’an Spots etc. One is centered on Baicheng City and the natural protection zones of Xianghai and Momoge belong to this belt. The last belt includes the cluster around Ji’an and Tonghua, the cluster around the Changbai Mountains and the cluster of the golden triangle of Tumen River. Besides these three belts, there also growing another one from the Changbai Mountains to the Songhua Lake. All of these belts are continuous not only from the angle of the spatial distribution, but also from their resources structures and their environmental characteristics. There is continuity between the clusters of each of the belt, such as in the sides of transportation corridor, the natural landform and the human folk-customs.

3.2.2 The analysis from the angle of the individual county

Through the overlapping of the score of the evaluation, the developmental potencies of each counties or cities can be clearly observed. Then come out the regional map of the developmental potencies, which will do a lot of favor for the further comprehensive tourism plan. Taking the county as analysis unit and the different attraction level as variables, the factor analysis of each region is carried out (GU *et al.*, 2002). Among the four factors, one principle factor is picked-up (the cumulative loadings is 88.02%). According to the scores, the table of potency rankings of each region is obtained. Table 3 shows that the tourism resources are widely spread all over Jilin Province; each region has several counties which have potential resources. But Jilin, Baishan and Yanji have much more abundant resources than other regions, while Liaoyuan, Songyuan and Siping have relatively less.

4 THE CONCEPT PLAN OF THE TOURISM IN JILIN PROVINCE

In the phrase “concept planning”, the word “concept” refers to the whole cognition and ideas in planning. As to the tourism concept planning, it means the development goals, the guidance thoughts and the frame of action should be clearly recognized and made certain before developing the regional tourism resources (ZHANG, 2001).

4.1 Spatial Structure Zoning of the Tourism Resources

According to the characteristics of “six clusters” and “three belts” spatial distribution of the tourism resources in Jilin Province, three tourism structure zones are divided. The detailed division method is: based on the resources territorial structure and along the transportation corridors, the tourism areas with good attraction or big cities, such as the Changbai Mountains and Changchun City, and their nearby tourism spots together are considered as one local traveling region and then several local traveling regions make up one traveling structure zone.

The three belts divided in this way are: 1) the west zone, includes Xianghai and Momoge natural reserves. The evident of this zone is its ecological and ethical tourism resources; 2) the middle zone is characterized by urban traveling and recreation, including Jilin and Changchun, together with their nearby Nong’an and Siping; 3) the last zone is also the most important one, which is the east zone. The Changbai Mountain, the golden triangles of Tonghua and Tumen River, composes it. This zone is remarkable for its abundant natural landscapes and unique folk-customs (Fig. 2).

4.2 The Ideas for Developing the Tourism Resources

Because the tourism resources in Jilin Province, to certain extent, are based on the natural ecological resources, the developing of them should continue sticking to the idea of “based on the ecological traveling to develop Jilin’s tourism”^①. By bettering the transportation and communication, furthering propagandizing, reorganizing the traveling routines and improving the tourism facilities, perfect tourism system will forms gradually and the tourism development can go on wheels with steady pace then.

① Source: The Tenth Five-Year Development Planning of Jilin Tourism.

road being the accession corridor and the outer being the spots of Jingyuetan Lake, Shuangyang, Kalun Lake and the second Songhua Lake.

(3) Sub-zone of Jilin tourism area (B_2). It includes the tourism spots of Jilin City, Songhuahu Lake, Yongji, Jiaohe, Shulan, Huadian, Panshi etc. This zone is centered on the Songhuahu Lake, and Jilin City acts as the hinge place. This sub-zone stands out for its urban landscapes, ice and snow sightseeing, meteorolite spectacles, cultural relics and historic sites, religious pilgrim, folk customs, recreation and business traveling etc. Thus Jilin City ought to be positioned as a concentrator of various tourism resources, sightseeing spots and traveling routines, functioning as a core city.

(4) Sub-zone of Tonghua Golden Triangle (A_1). This sub-zone is made up with Ji'an, Huinan, Liuhe and Luotongshan tourism spots. And Ji'an is the core, while Tonghua the collective and diffusive center. The concept plan of this area ought to emphasize on characteristics of the cultural relics of Gaojuli, Yalu River landscape, the frontier tour between China and P. D. R. Korea, ice-snow seeing, volcano groups and the forests etc. and the planning goal is to make Ji'an one of the most remarkable places having Gaojuli culture and a frontier tourism city between China and P. D. R. Korea along the Yalu River.

(5) Sub-zone of the Tumen River golden triangle (A_2). The Tumen River is seated in the core of the broadly called Tumen River economic development zone. It includes the territory from the Luojin, Pioneer free business areas in P. D. R. Korea through the Yanbian in China to the Nahuodeka in Russia. There have many ecological systems, including forests, wetlands, oceans in the Fareast Russia, the ocean and seashore in P. D. R. Korea and the natural conservation area of the Changbai Mountains in China. And they have many kinds of species as well.

Thus the concept plan of Tumen River Triangle sub-zone is centered on the Yanji City, while Hunchun and Tumen are the collective and diffusive places. This sub-zone should emphasize on characteristics of frontier traveling and sightseeing, cross-border traveling, Korea folk-customs, ecological tourism resources etc. Its planning goal is to make Yanji become a traveling city

focusing on Korea customs, while Hunchun, Fangchun and Tumen become the most important frontier business cities in Northeast China.

(6) Sub-zone of Baicheng Golden Triangle (C , including C_1 and C_2). It includes the natural bird conservation area of Xianghai and natural conservation area of Momoge, Chagan Lake and Baicheng City. And the Xianghai wetland ecological traveling takes the lead of exploitation, and the Momoge and the Nenjiang River are the secondary class tourism spots. Baicheng acts as the collective and diffusive place of this sub-zone. The concept plan gives prominence to ecological tourism, bird seeing, scientific investigation and Mongolia-fork customs and broad grassland scenery, hunting etc. and the planning goal of this zone is to make Baicheng become the goods-collective and diffusive place and economic interacting center among Inner Mongolia, Heilongjiang and Jilin, and the Xianghai conservation area to be the best grassland-wetlands and bird-watching in the world.

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