

# Integrative Construction of Leizhou Peninsula Great Ecological Tourism Circle

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**Abstract.** Leizhou Peninsula is rich in tourism resources, yet has been excluded from the hot-spot rank of Chinese tourism attractions due to a lack of reasonable travel planning mechanism. From the viewpoint of system theory, this thesis analyzes two main aspects: integration development should be exercised on all sorts of tourism resources to form a larger Ecological Tourism Circle; coordination and development should be carried out by subsystems within the tourism circle, to optimize and integrate the ecological tourism products, boom tourism and economy in a sustainable and ecological way.

## 1. Current Situation of Leizhou Peninsula Tourism Development

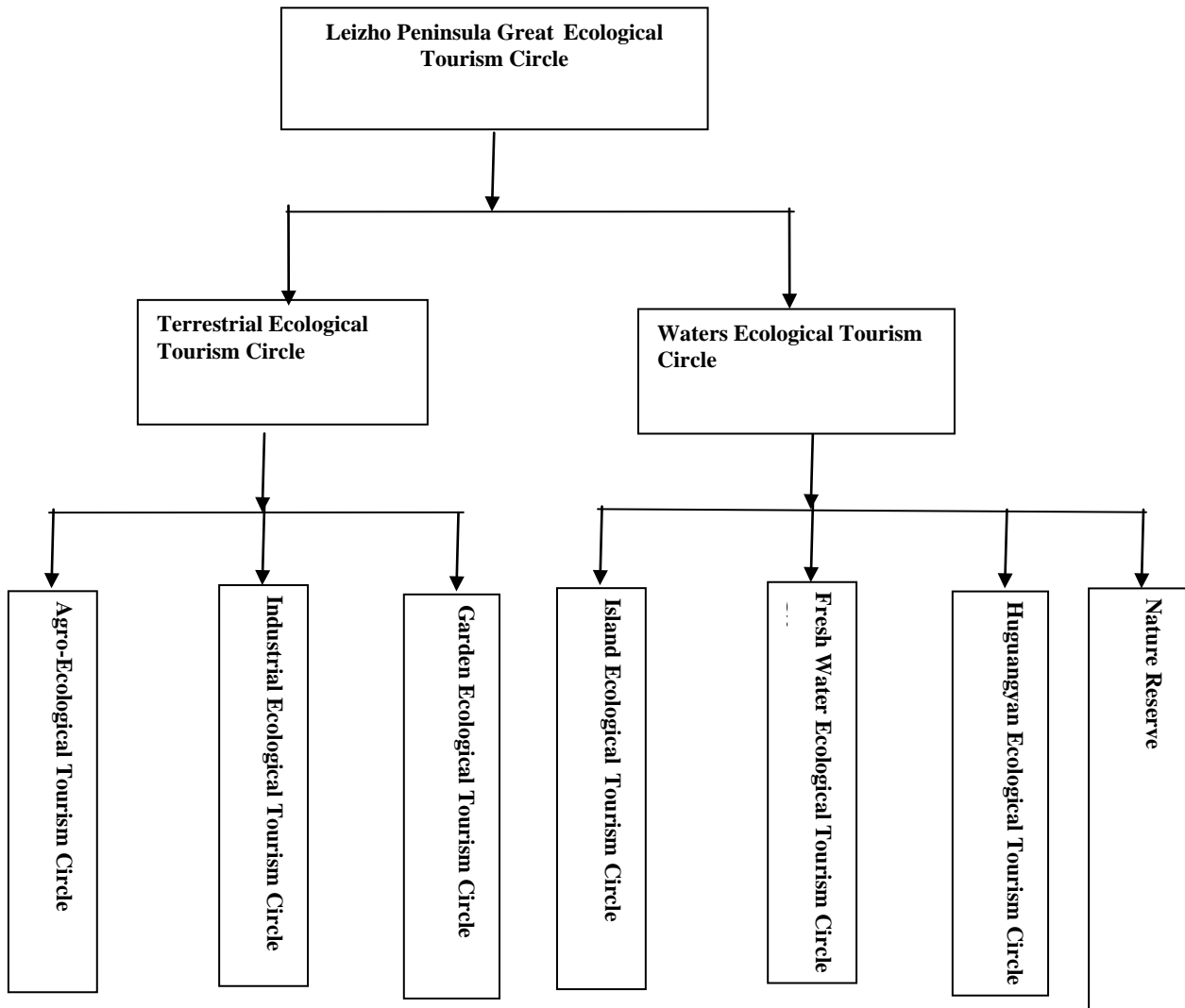
Leizhou Peninsula lies in the southernmost point of Chinese mainland, embraced on three sides by sea, whose coastline stretches 1450 kilometers. From north to south, its length is around 140 kilometers. From east to west, its width is about 60-70 kilometers, listed as one of "three Chinese Largest Peninsula". According to Chinese administrative division, Leizhou Peninsula area belongs to Zhanjiang Municipal of Guangdong province, consisting of three county-level cities, respectively are Leizhou, Lianjiang, Wuchuan and two counties: Xuwen and Suixi. From preliminary analysis, in year of 2013 Zhanjiang received totally 25.433 million visitors, creating the revenue of 15.55 billion RMB, respectively increasing by 13.6% and 22.3%. Municipal major tourist projects have raised 4.8 billion RMB tourism investment, increasing 6.6% compared with the previous year. In the same year, only a municipal Qingdao of Shandong province received 62.80 million visitors, increasing 16% compared with previous data. So it suggests that Leizhou Peninsula's tourism is still at a low development level. The reasons mainly are: First, the tourism orientation is not clear. Though experiencing a long development period, Leizhou Peninsula's tourism image is not definite and cannot present a systematic orientation. Second, the system of regional tourism development has not been established. Sectors separate from each area, without forming a consistent travel routine. Besides, its weak cooperation between scenic spots causes a lack of tourism competition. So against the background of ecological tourism and regional tourism resources, this thesis comes up the integration of regional tourism resources to create Leizhou Peninsula big ecological circle and a consistent tourism area without barriers.

## 2. Definition of Leizhou Peninsula Great Ecological Tourism Circle

Leizhou Peninsula features a north tropical maritime climate and typical sub-humid monsoon climate with the characteristics of warm winter, early spring, long, hot and damp summer, dry and cool autumn, flood season, thunders throughout the year, sufficient sunshine and sea-land breeze alternating. Its annual average temperature is 22.7 °C. It has more than 1930 annual average sunshine hours and 8180°Ctotalannualaverage accumulative temperature above 10°C. Leizhou Peninsula is also known as frequent thunderstorm as the average number of thunderstorm days are 80~112. Electric shock produces considerable negative ions in the air, making the air fresh. Apart from thunder and lightning, the surging of sea waves in the ocean generates a mass of negative ions so that

the air is fresh beside seaside. On account of climatic resources, Leizhou Peninsula is suitable for sightseeing throughout the year.

In China, Leizhou Peninsula is the special tropical Peninsula ecological system, carrying various subsystems and ecosystem diversification is completely obvious. The construction of great ecological tourism circle in Leizhou Peninsula integration should include primary, secondary, tertiary subsystems, among which primary and secondary subsystem may include (seen in block diagram):



## 2.1 Terrestrial Ecological Tourism Circle

### 2.1.1. Agro-Ecological Tourism Circle

In 1991, Zhanjiang became the first city coming up to the standard on afforesting plain area in China, with more than 30 percent of forest coverage. The most distinguished varieties in Zhanjiang are as follows: artificial Eucalyptus forests and sisal hemp garden covering the most areas of China; pineapple and mango plantations known for the best quality in Guangdong province. Further more, leagues of litchi trees, longan trees and blood orange trees in Lianjiang formed a unique subtropical agricultural tourism zone and as a beautiful tourist attraction of ecological agriculture, it has attracted numerous tourists from home and abroad.

Based on such a rich agricultural resources and beautiful scenery of the township, agricultural ecological tourism circle should take full account of the existing resources base of agricultural production, according to local conditions, improving infrastructure, such as transportation, water and electricity, accommodation, and further constructing casinos and resorts. In addition, the ecosystem should be based on the ecological agriculture model as a whole agricultural production garden layout,

fostering vital ecological tourism type sightseeing agriculture products. Furthermore, the existing production advantages of ecological garden should be brought into play. Pollution-free vegetables should be produced in the mode of organic agriculture cultivation and planting, which reflect the promising applications of high-tech agriculture, form product characteristics and create the theme image of "Green, Safe, Ecological". With the guidance of ecology theory, ecological tourism circle should adopt ecological principles, environmental technology, biotechnology, and use the mechanism of modern management, so that the whole garden will form a virtuous cycle of agro-ecosystems and will realize the integration of economy, ecology and social benefits.

### **2.1.2 Industrial Ecological Tourism Circle**

Imitating the natural ecosystem, industrial enterprises will make the most of resources and will reduce the cost to the environment. There will be a synergistic and symbiotic relationship with each other. Ultimately the industrial enterprises will become ecological garden achieving goals of industry sustainable development, called eco-industrial garden. "Population, Resources, Environment" have become globally recognized three themes. As global population is growing and the quantities will soon reach 10 billion, the process of industrialization has improved the quality of people's lives. Nevertheless, it speeds up process of the occupation of the earth's limited resources, meanwhile environmental pollution and destruction caused by which is relentlessly wrecking human beings.

Eco-industrial garden gathers factories and enterprises, good environment, community services, more business opportunities creation and the ecosystem improvement. It is a new concept of reasonably integrating the economic development and environmental protection. Consequently it creates a "living chain" through reasonably integrating its surrounded "resources" (including business, governments, organizations, research institutions), etc., which produces a greater economic and environmental benefits. Eco-industrial garden in Zhanjiang mainly includes iron and steel eco-garden, petrochemical eco-garden, papermaking eco-garden and so on. With developing the eco-industrial garden, industrial eco-tourism should also be promoted. These measures will let visitors further understand the importance of industrial development and environmental protection, and make industrial enterprises bring the thinking of environmental protection into the production process.

### **2.1.3 Garden Ecological Tourism Circle**

Having witnessed a city's development, garden is a carrier for urban history and culture; and with abundant story stored, garden is appealing and attracting which is a good place for pleasure, exercise and social contact; it's a specific and direct embodiment of ecological civilization. Famous as a Garden City, Zhanjiang has a large collection of ecological gardens, for example, the Lvtanghe Wetland Garden, is an ecotype theme garden in reality as well in name, which not only maintains the unique natural landscape characteristic of Zhanjiang wetland region but also highlights the characteristics of nature and ecology

## **2.2 Waters Ecological Tourism Circle**

### **2.2.1 Island Ecological Tourism Circle**

Leizhou peninsula is famous for its lengthy and circuitous coastline, which measured 780 kilometers in length and embodies more than thirty harbors or islands (alluvions and reefs not included); as for land, the peninsula was covered by continuous forest belts, sands and rocks, all of these geomorphic features as well as the tropical climate here make it a paradise for hemp palm and coconut trees growing, and hence the landscape of tropical oceans was produced. In addition, the unique zone bit of southernmost point of the mainland in which Leizhou Peninsula locates makes the tourists who dwell in inland for a long time are able to indulge themselves in tropical custom without sailing. Some famous islands are as follows: such as Donghai Island, the fifth-largest island of China as well as the largest island of Guangdong, Nansan Island, the second-largest island of Guangdong, Naozhou Island, an volcanic island abounding with lobsters and abalones, there are some islands famous as fishing village on the sea, such as Techen Island, Tiaoshun Island, Xinliao Island, Beili Island, Luodousha Island (also called Xinsha Island), Three piers island and so on. The development ideas of 'Five Islands, One Bay' that Zhangjiang city is cultivating is exactly the explanation to the construction of island ecological tourism circle.

### **2.2.2 Fresh Water Ecological Tourism Circle**

With the sea on three sides, gardens with water as an architectural element can be seen everywhere on Leizhou Peninsula. Besides the lengthy coastline, there are many freshwater rivers in Zhanjiang city, which constitute a picture scroll of Zhanjiang's water. The fresh water ecosystem is regarded not only as a treasure-house among the resources for the human, but also as a crucial environmental factor and tourism resource, which possesses functions, like regulating the climate, purifying the pollutants, and protecting the biodiversity. Within the fresh water ecosystem, the fresh water plays a main part while many other kinds of aquatic fauna and flora take the second place, that is to say, the secondary part generally will not occur too much of an issue, so long as the environment of the main part is not destroyed. Then, the ecosystem can keep itself balanced on the whole. In addition, Zhanjiang possesses a number of reservoirs, such as Hedi Reservoir and Youth Canal, Chikan reservoir, Jiuzhou River, Jian River and so on. The extremely high civil value of fresh water resources is unquestionable, and its tourism value should not be neglected as well, either. Based on the concept of green environmental protection, the natural landscape of forest garden in the reservoirs should be fully utilized so that the environmental landscape system with three 'worth' (worth sightseeing, worth visiting, worth dwelling.) and landscape integrated system can be established.

### **2.2.3 Huguangyan Ecological Tourism Circle**

According to the Guangdong Province Annals, a massive volcanic eruption happened in Leizhou Peninsula during the period of tertiary and the early holocene of quaternary, hereby a scene that 'half the seawater, half the flame' was created and since then, multicolored lake-reflection and volcanics came into being. On account of its unique geomorphic feature and geologic structure, the volcanic resources, as a kind of scarce tourism resource, attracts countless tourists to sightsee and explore. Known as the 'Natural Geological Museum', Leizhou Peninsula experienced terribly violent magmation and then a rare geological wonder was formed.

So far, seventy-six volcanoes were discovered in Leizhou Peninsula and the distribution area of the volcanics reaches 3136 square kilometers, occupying nearly 38.5% of the whole peninsula. The scale of volcanic activities in Leizhou Peninsula stands first on the list of nine volcanic regions nationwide during the quaternary, therefore, some geologists create a jingle to describe this, "Volcanoes in Chinese, North- Wudalianchi, South-Leiqiong Volcano". It is thus clear that the tourism resources in volcanoes are precious resources, but requires integrated development. On this basis, by probing the relation between exploitation and protection so that the resources will be utilized in a more coordinated way, the goal of Green Development will be attained and then the economic benefits will be maximized.

### **2.2.4 Nature Reserve**

Nature reserve is a legally delimited, specially protected and managed area of continent, continental water region or sea area where representative natural ecosystem, rare and endangered wildlife, specially significant nature relics and other main protected objects located. According to its main protected objects, nature reserve falls into biological species reserve, ecosystems types reserve and nature relics reserve. No matter what type of nature reserve, the general requirement is mainly about protection. Besides, on the premise of having no effect on protection, nature reserve organically integrates scientific research, education, production with tour and other activities so as to ecological benefit, economic benefit, social benefit and economic benefit, which is the embodiment of ecological civilization. Zhanjiang Mangrove National Nature Reserve in Guangdong, authorized to established by Guangdong Provincial Government in 1990 and upgraded to national level in 1997, is mangrove ecosystem-oriented. With an area of 19,000 hectares square kilometers, it distributes on coastal, intertidal zone of Leizhou Peninsula in zonal and dotted way, covering four counties (cities) -- Xuwen, Leizhou, Suixi and Lianjiang and four districts of Zhanjiang--Mazhang, Potou, Donghai and Xiashan.

### **3. Recommendations on Eco-tourism Circle Integrated Development in Leizhou Peninsula**

#### **3.1 Providing policy support and institutional guarantee at Macro-level**

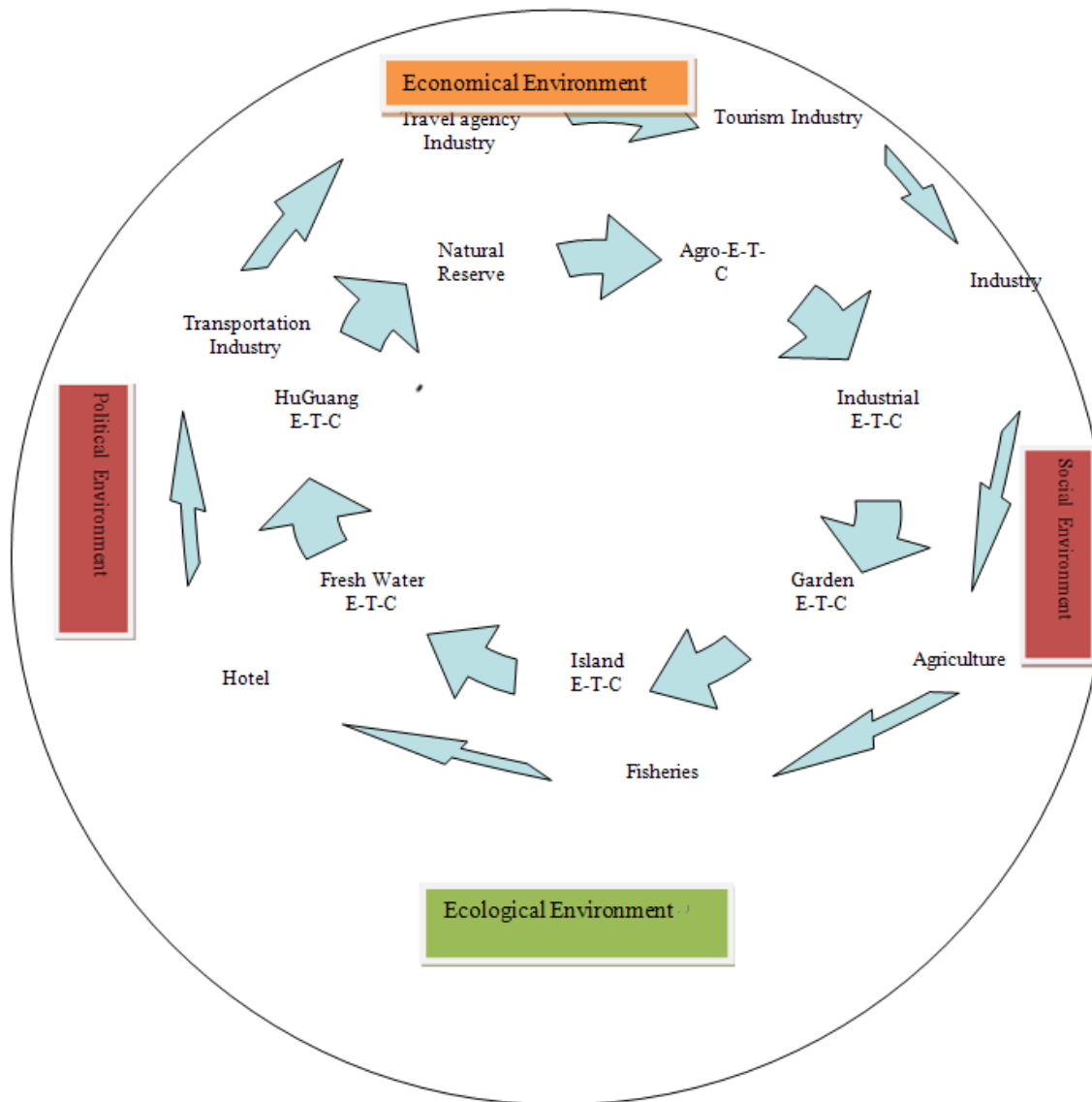
First, headquarters of the Eco-tourism Circle Integrated Development of Leizhou Peninsula should be established. Steps are as follows, matrix organization structure should be built, which will be initiated by the Zhanjiang Travel Bureau and followed by other involved departments; scientifically and reasonable planning for “A Game of Chess” strategy of resources integration and for the Integration Strategy of Development and Construction should be made; moreover, the headquarter is supposed to take the lead in launching overall coordination with units within the administrative region, by implementing the grand blueprint and planning of tourism-circle’s construction on numbers of projects.

Second, administrative barriers should be broken to achieve the goal of regional tourism cooperation for administrative barriers as a huge obstacle not only hinders the development of market economy, but also impedes the coordinating development of regional tourism. Therefore, the Eco-tourism Circle cannot be constructed without the supports from administrative departments, and meanwhile, the establishment of mutually beneficial Competition-Cooperation among every individual within regional organizations as a good atmosphere is of great significance. Currently, huge obstacles exists in resources integration among numbers of tourists attractions due to boundaries set by the administrative regions, which requires government departments to form investigative and coordinating teams as soon as possible to clear obstacles in cooperation, development and resources integration among tourism spots as well as that in the establishment of tourism circle, and to eliminate the local protectionism, and finally break the administrative barriers.

Third, works on Service Collaboration and Regional Planning should be perfected. Regional tourism development plan serves not only as a synoptic document about tourism development, but also as an overall strategy and disposition about that; these two characters of regional tourism development plan decide its long-term relation with tourism development of certain region. And to promote sustainable development of regional tourism, strict organizational procedures and relevant regulations should be implemented, such as contains tourism management strengthening, tourism market standardizing to rectify and normalize tourism market with emphasis. Meanwhile, to maximize the benefits of collaboration, overall grasp of all kinds of tourist resources in the region should be taken, and then targeted intended product portfolio and promotion should be made on some selective and most typical tourism resources.

#### **3.2 Forming a Ecological Tourism Circle Architecture Model at Meso-Level**

To build a big ecological tourism circle in Leizhou Peninsula, we should focus on grasping the characteristics of overall development, develop the awareness of “Ocean development, integration development, scientific development and rational development” and form a economic chain, including marine fisheries, tourism, agriculture, lodging industry, travel service industry and transportation, just shown in the diagram below (Ecological Tourism Circle is abbreviated to E-T-C).



From the inner ecological chain, every subsystem exists in the similar environment, so there is a close connection between them, that is live and share with each other so as to integrate and win, and they both live on unique natural environment of Leizhou Peninsula. However, the development of the tourism circle will have effects on economy, society and environment. In the course of tourism development, it inevitably produces a great of substances, energy and information. If the development of each ecological tourism circle only focuses on present interests, it will result in a pell-mell development and cause resource wastes and environmental disruption, so that it produces a large number of operating cost and then makes system efficiency hard to improve. Therefore, it is necessary to build a recycling network in the inner ecological tourism circle of Leizhou Peninsula and form a ecological chain to enhance the flowing function of substances, energy and information between each inner space of subsystems to promote linkages and collaboration among each space of subsystems.

From middle economic chain, this part contains the relationship that the relevant company formed when developing tourism. Tourism is a industry strongly related to other industries, during the development of tourism, and it will promote the development of relevant industries. So every industry should build consensus that the resources they depend on and the effects they make are shared. Each industry complete as well as cooperate with each other, while tourism industry plays a role as decomposer in this chain, supervising, controlling, coordinating and adjusting the whole economic chain, so that the ecological tourism circle can develop harmonically and stably.

From outer environment, during the course of tourism development, the development of the whole tourism circle depends on economic environment, the tendency of tourism development depends on

political environment, the potential of tourism circle depends on social environment and the basis of tourism development depends on ecological environment.

### **3.3 Building Subsystems for Ecological Tourism Circle at Micro-Level**

The establishment of ecological tourism circle system in Leizhou Peninsula depends on the ecological development of each subsystem. Among all the subsystems, each industry should develop their own brand and exploit their characteristic products to remain invincible. On the basis of systems theory, only when each subsystem coordinate with each other, can they make the greatest effect of the whole. We should have different emphasis on building level and methods of each ecological circle. For example, on the premise of focusing on economic benefits, building industrial ecological tourism circle should follow development principles of low-carbon, green, environmental protection, while building agricultural ecological tourism circle should focus more on its unique, form some agricultural ecological products different from other areas and then develop them into different tourism products and agricultural products.

## **4. Summary**

On the basis of systems theory, based on some single programs like Ecological City Construction Plan for Zhanjiang, the 12th five-year plan for Environmental Protection and Ecological Construction for Zhanjiang and Tourism Industry Development Plan for Zhanjiang, building Leizhou Peninsula as a big ecological tourism circle is a high generalization of “one bay and two coasts” and “five islands and one bay” and it is a totally new concept. So only when government, companies and social people participate together to construct, can we build our brand successfully.

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## **References**

- [1] Zeng Jing, Integration Tourism of Western Hubei Eco-Culture Tourism Circle, Journal of Hubei University of Arts and Science, 2014,35(7),32\_34.
- [2] Boschma, R., & Martin, R. (2010b). The aims and scope of evolutionary economic geography. In R.Boschma & R. Martin (Eds.), The handbook of evolutionary economic geography (pp. 3–39).Cheltenham: Edward Elgar Publishing.
- [3] Brouder, P., & Eriksson, R. H. (2013a). Tourism evolution: on the synergies of tourism studies andevolutionary economic geography. Annals of Tourism Research, 43, 370\_389.
- [4] Haddad, B.M. (2005). Ranking the adaptive capacity of nations to climate change when socio-political goals are explicit. Global Environmental Change Part A, 15(2), 165\_176.