Influence Factors and Development Model of Regional Ecotourism Cooperation in China

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Abstract: Regional ecotourism cooperation provides an institutional guarantee that brings together ecological resources development, protection of natural ecologies and regional economic growth, and also is one of the keys to improve the level of China's ecotourism development. China's administrative regions are divided by large areas of natural geography, such as vast tracts of land, mountainous areas and bodies of water. Given the structure of China's administrative system, administrative areas make independent and uncoordinated decisions concerning the use of ecological resources, resulting in low-level ecotourism products and redundant construction projects undertaken by local governments, limiting the further improvement of China's ecotourism level. Therefore, it is necessary to construct a spatial system and a model of regional ecotourism cooperation in line with China's national conditions. This paper adopts an inductive deductive method analyze systematically the connotations and obstacles of China's regional ecotourism cooperation, and proposes space development and cooperative model. Research shows that the inescapable choice is cross-regional ecotourism cooperation based on natural zonality, cultural similarity, coordinated regional economic development and policy integration. The key existing obstacles include administrative barriers, lack of motivation to cooperate and loose cooperation patterns. Future regional ecotourism cooperation should define the thematic function area, cooperation zones, scenic roads and ecotourist routes, to establish the cross-regional integration development system and realize systematic optimization. This study is of theoretical value for the development of regional ecotourism cooperation and the construction of spatial systems in China.

Key words: cross-regional ecotourism cooperation; influence factors; development model; China

1 Introduction

Cross-regional tourism cooperation is an important guarantee for maintaining ecological security and promoting the sustainable development of tourism (Stoffelen & Vanneste, 2017; Andergassen et al., 2017). Regional ecotourism cooperation means that, within a certain region, ecotourism stakeholders from different administrative regions break down administrative divisions to create unified configurations and promote development based on win-win principles, to achieve comprehensive benefit maximization (Xue, 2001; Liang et al., 2005). This can be achieved by constructing ecotourism associations, promoting the development of diverse ecotourist routes and tourism products, releasing potential space for tourism resources development and product construction, and speeding up the effective flow of regional resources elements (Yang, 2001; Zhang, et al., 2006).

Space development model is an effective optimization path to promote tourism destination management (Huang, 2005). Cross-regional ecotourism cooperation needs scientific space governance to effectively integrate ecotourism resources and maintain ecosystem integrity. This has become an important issue today in China’s ecotourism de-
velopment (Zhong et al., 2016). Ecotourism is a sustainable way to use tourism land (Ralf Buckey, 1994; Lu 1996; Guo 1997); it can maintain the value of natural resources and ecosystem functions, and realize ecological compensation (Lofo Resources Focus, 1999). China is a large country that has a diverse natural environment and cross-regional ecological function areas, including 676 National Key Ecological Function Areas (NKEFA), 53% of China’s total land area. These NKEFAs have entirely different characteristics, such as typical biodiversity, ecological fragility, communities in poverty, complex environments and infrastructure, and are faced with the key task of maintaining land ecological security. Ecotourism has become an important part of nature based tourism in China; however, cross-regional distribution of natural ecological resources has raised questions about collaborative development and space governance. Development mode can be useful as the driving force for the implementation of tourism planning and the building of a sustainable network for ecotourism cooperation.

Research concerned with regional ecotourism collaboration has become a focus of much current tourism research. Various researchers have used theories related to network grouping to study the relationships between regional stakeholders with respect to policy coordination, product combinations, resources and information sharing, joint marketing, and community participation (Wu et al., 2005; Huang et al., 2013), and the formation of effective cooperation relationships (Liu et al., 2013), such as inter-organizational strategic alliances (Vítor Mendonca 2015) or tourism cooperation networks (Cátia Jesus & Mário Franco 2016). The natural endowment and the culture continuity of ecological tourism has the objective demands of regional collaboration and overall development. In recent years, industry-oriented, multi-sectoral ecotourism collaboration has become the key measure used by researchers in the field both in China and abroad (Liu et al., 2013). In this context, collaborative ecotourism optimization paths can be achieved with cross-regional transportation and service facilities, and unified destination images designed to build cooperation of interests, compatible incentives and secure operations (Song 2008; Dong et al., 2016). By coordinating spatial growth, and using the driving power of markets and government regulation, the governments try to build integrated vertical and horizontal cooperation networks and implement joint supervision (Tang et al., 2009; Duan 2012). Numerous studies focus on several typical regions, including the Shaanxi Qinba mountain barrier-free tourism zone, Sichuan Shangrila ecotourism area coordinated region and other hot spots for strategic collaboration system prototypes. Overall, these studies suggest diversified measures based on research in different regions, but these measures generally focus on the strategic system level. They lack consideration of issues concerning operational support at the national level, so it’s hard to continually implement the policy plan and also stagnate the pace of regional ecotourism cooperation.

This paper analyzes the key problems and suggest space development as a mode for cooperative mechanisms to develop China’s ecotourism cooperation. It is hoped the paper will provide theoretical reference and practice guidance for related studies.

## 2 Methods

The research in this paper is based on the extensive investigations, in-depth analysis and full consultation; the detailed methodology and technical procedures are shown below.

### 2.1 Field investigation

This paper relies on the “China National Ecotourism Planning (2016-2025)” project funded by the China National Development and Reform Commission (CNDRC) and the China National Tourism Administration (CNTA), carried on the field investigation and held the symposium of national key provinces, supplemented by indoor literature analysis, on which the paper obtain the preliminary judgment.

### 2.2 Expert interviews

After the formation of the above preliminary viewpoints, the research group invited experts in the fields of ecology and tourism science and conducted interviews in three stages: prophase, metaphase and post-stage. These arguments have been modified to make a more consistent view of the overall framework design.

### 2.3 Inductive deductive

Based on the results of the field investigation, expert interviews and literature analysis, the paper carried out a theoretical analysis of the development of cross-regional ecotourism cooperation in terms of space structure and the operation mechanism. The paper proposed solutions to problems affecting cross-regional ecotourism destinations, and presented the space framework and the mechanism mode.

## 3 Analysis of Influence factors on regional ecotourism cooperation

Zones rich in ecological resources are special geographical areas that have important roles in maintaining the integrity and the stability of ecosystems. The segmentation of zones across different administrative regions often results in a lack of mechanisms to coordinate the use of cross-regional resources and environments, leading to problems caused by fragmented ecotourism development.

### 3.1 Administrative barriers

Geographic regions with mountains and rivers maintain the integrity of the natural ecosystem. The administrative divisions of such regions at all levels in China create artificial barriers to the integrity of the ecosystem. Such administra-
tive barriers result in problems with ecotourism resources sharing, and impose limits on the development of regional ecotourism cooperation. Administrative divisions cause the fragmented development of single ecological regions. The existence of the administrative barriers and local protectionism lead to inefficient competition for resources, information and technology, as well as the separation of development trends and substantive cooperation.

### 3.2 Government dominance

“Government leading, enterprise participating” is the main mode of ecotourism development in China. This means that enterprises participate in resources development and market operations of ecotourism under the guidance of government policies. Governments focus on regional development planning, project examination and approval, infrastructure construction and supporting policies, etc., and usually ignore regional ecotourism coordination. Thus, ecotourism stakeholders may take a passive stance, lacking initiative and creativity (Li 2015).

### 3.3 Loose cooperation

The cooperation of cross-regional governments is loose. The characteristics of this cooperation are “heavy form, heavy conception”, maintaining cooperative relations with regional meetings, cooperation agreements, memorandum, and mutual exchanges. However, this approach of cooperation cannot solve substantive problems, such as lack of infrastructure construction, inadequate resources integration, and little development of regional tourism products, all of which lead to a phenomenon called “form is greater than substance”.

### 4 Construction of a model for regional ecotourism cooperation

Cross-regional ecological resources have similarity and complementarity, with a high regional identity. The basis for cooperation includes the natural zonality of ecological resources, ecological system integrity, social and cultural similarities and connections, collaborative regional tourism economic development, and integration policy. The sustainable development model builds an effective spatial organization structure as the space frame and the premise to support the orderly development of ecotourism destinations. The model is composed of nodes, spatial axis and sectors, and is the combination of point-axis-face own agglomerations and diffusion functions (Lu 2002; Wang et al., 2005) used to build a spatial structure organization and supporting mechanism.

From the perspective of national ecological civilization construction and ecological security maintenance, China’s ecotourism should be the subject of overall planning and unified development across the boundaries of administrative regions. This paper constructs a spatial collaborative development model that can strengthen regional cooperation and resource sharing, while effectively avoiding low-level construction and the disorderly competition of ecotourism products, in order to realize the integrated development of ecological tourism resources.

#### 4.1 Principles

4.1.1 Breaking down administrative divisions that fragment ecotourism resources governance

Administrative division is the main factor contributing to the fragmented development of ecological resources. There are major problems at all administrative levels, including provinces, municipalities, and counties. A top to bottom hierarchical governance system must be established within the Chinese political system. Structural relationships between levels and regions must be rationalized in terms of regional policy, financial support, system construction and so on. Only in this way can the problems of resource fragmentation be addressed.

4.1.2 Making ecological resources of large scale natural geographic entities the main component

The geographical regionalization of tourism follows the law of regional differentiation. The distribution and characteristics of ecotourism resources are representative of similarities and differences of natural geographical environments and their components. Ecotourism regionalization should follow regional differentiation and ecosystem integrity. Large physical geographical entities such as mountains or big rivers are relatively complete regional ecosystems and usually serve as the basis for demarcating administrative boundaries. These entities have high levels of resources and are in urgent need for ecotourism development built on regional cooperation.

4.1.3 Selecting ecological areas with good conditions for tourism development

The construction of ecotourism destination system needs a relatively complete set of tourism point-line-surface models. These issues should be considered with respect to tourism destinations; ecological region with advantageous development status, brands for ecotourism products and good traffic conditions; regions that meet the needs of the current national regional development strategy, construction of ecotourism functional areas, centralized contiguous areas of poverty development, etc.; consideration of the spatial layout and functional optimization of national ecotourism; optimization and promotion of the development level of the ecotourism industry cluster, with attention paid to organizing spatial development structures.

#### 4.2 Framework

Based on the laws of regional differentiation and the functions of ecosystems, the model can be divided into areas and nodes, such as ecotourism function areas, ecotourism cooperation areas, and key ecotourism destinations. The spatial linkages between linear ecotourism scenic spots and ecot-
ourism routes can form the basis for the combination of points, lines, and surfaces that make up ecotourism regional cooperation development patterns. This paper hopes to present a scheme to optimize the spatial layout and function structure for national ecotourism development to form a scientific and reasonable space management system (Fig. 1).

4.2.1 Domain surface functional sub-system: Ecotourism area and ecotourism cooperation zone

Based on the characteristics of natural geography, ecological environments, and regional comparative advantages of ecotourism resources, and with consideration given to the China Major Function-Oriented Zone Planning and China National Ecological Function Zoning, this paper delineated eight National Ecotourism Development Areas (Table 1, Figure 2). These areas are: the northeast plain ecotourism area (NPEA), the middle and lower reaches of the Yellow River ecotourism area (MLRYREA), the northern desert and grassland ecotourism area (NDGEA), the Qinghai-Tibet plateau ecotourism area (QTPEA), the eastern plains and hills ecotourism area (EPHEA), the Pearl river ecotourism area (PREA) and the ocean and island ecotourism area (OIEA). The paper hopes to define development directions for different areas at the macro level, giving full play to the advantages of regional ecological resources, and gradually forming distinctive regional ecotourism development areas.

The paper takes the key ecological function areas as basic units, selects twenty cross-regional areas with rich resources, brand advantages and good infrastructure conditions to build Ecotourism Cooperation Zones (ECZ), form regional ecotourism cooperation networks, achieve cross-regional linkage development and break down regional administrative divisions.

4.2.2 Linear connective sub-systems: National Ecological Scenic Road and National Ecotourist Route

Starting with the overall layout of the national transportation grid, and taking into consideration the needs for beautiful landscapes, strong experience, moderate distances and high levels of stimulation, we connect the ecotourism destination nodes organically to the best advantage by combining linear ecological factors with the traffic trunk lines. Finally, 25 National Ecological Scenic Roads (NESR) are created (Fig. 1), transforming these roads from single function transport lines to the comprehensive lines for ecological leisure, landscape ornamentation and ecological maintenance.

**Table 1** Territorial scope and product features of National Ecotourism Development Area

<table>
<thead>
<tr>
<th>Name</th>
<th>Provinces, Autonomous regions and Municipalities</th>
<th>Product Features</th>
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<tbody>
<tr>
<td>NPEA</td>
<td>Liaoning, Jilin, Heilongjiang, Inner Mongolia (including Hulunbel, Xingan, Tongliao and Chifeng cities)</td>
<td>Forest sightseeing, ice sports, border tourism, prairie recreation</td>
</tr>
<tr>
<td>MLRYREA</td>
<td>Beijing, Tianjin, Hebei, Shandong, Henan, Shaanxi</td>
<td>Ecological sightseeing, historic tourism, cultural experience, leisure vacation</td>
</tr>
<tr>
<td>NDGEA</td>
<td>Inner Mongolia (besides Hulunbel, Xingan, Tongliao and Chifeng cities), Gansu</td>
<td>Grasslands tourism, desert adventures, snow area recreation, silk road culture, ethnic cultural tourism, scientific investigation</td>
</tr>
<tr>
<td>QTPEA</td>
<td>Tibet, Qinghai, Diqing Tibetan Autonomous Prefecture in Yunnan province, the Garze Tibetan Autonomous Prefecture and the ABA Tibetan and Qiang Autonomous Prefecture in Sichuan province, Gannan Tibetan Autonomous Prefecture in Gansu province</td>
<td>Lake sightseeing, wetlands tourism, snowy mountain adventures, religious and cultural experience, scientific investigation</td>
</tr>
<tr>
<td>UMRYREA</td>
<td>Jiangxi, Hubei, Hunan, Chongqing, Guizhou, Sichuan (besides the Garze Tibetan Autonomous Prefecture and the ABA Tibetan and Qiang Autonomous Prefecture), Yunnan (besides the Diqing Tibetan Autonomous Prefecture)</td>
<td>Forest tourism, natural landscape sightseeing, rare animal and plant watching, mountain sport leisure, ethnic custom and cultural experience</td>
</tr>
<tr>
<td>EPHEA</td>
<td>Shanghai, Jiangsu, Zhejiang, Anhui, Zhejiang</td>
<td>Famous mountain tour, river lake view, ecological sightseeing, cultural experience, leisure vacation, health tourism</td>
</tr>
<tr>
<td>PREA</td>
<td>Guangdong, Guangxi</td>
<td>Holiday therapy, biodiversity science, original ecological experience, science popularization and summer camp, local ethnic custom</td>
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<tr>
<td>OIEA</td>
<td>China’s territorial waters, seas (including Bohai Sea, Yellow Sea, East China Sea, South China Sea and so on), islands (including Hainan island)</td>
<td>Ocean tour, cruise ships, sea sports, ocean exploration, marine science culture</td>
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</table>
With the linear ecological elements as the spindle, combined with the layout of traffic trunk lines, we strengthen the connections between ecotourism destinations by connecting tourism nodes and making the points into a line and the string into a gallery. Meanwhile, ecotourism public facilities are developed along the ecological tourist routes. Moreover, it is important to take advantage of ecotourism resources along the routes and construct ecological tourist routes across provinces or within provinces. Finally, a backbone framework supporting ecotourism areas and ecotourism cooperation zones is formed, and this enhances the ability to cooperate.

4.2.3 Dot support sub-system: support network evolution of domain surface functional system and linear connection system by ecotourism scenic spot

Taking into consideration the spatial distribution balance between the central and western regions, the paper selects 200 major ecotourism destinations (MED) with good natural environment, rich ecological resources, solid foundation conditions and high brand awareness nationally, and builds them into international level scenic spots to support collaborative network development.

5 Mechanisms for regional ecotourism cooperation

The administrative management practices of governments at tourism destinations are changing with respect to the implementation of space governance. Cooperative alliances among the public, the private sector and the volunteer organizations have been used frequently to improve competitive ability. However, in practice, due to the administrative divisions of the system, the activities of local governments are fragmented, with each developing large-scale ecotourism resources independently, resulting in over-development and the irrational use of resources, low returns on construction investments, inadequate policy enforcement of relevant environmental regulations and management measures, all of which have inhibited the development of ecotourism in China. To address such problems, we should adopt a multi-level governance model to form a space governance network among cooperators (Cooper and Hall, 2007). As part of the governance process, we should strengthen space development efficiency, keep spatial development balanced, improve land security (Liu, 2014), pay attention to top-down system construction and institutional design, and form collaborative linkages between different participants (Wang and Li, 2013).

5.1 Strengthen cooperation between governance bodies

We should set up regional communication channels and
platforms for cooperation, strengthen communication between different collaborative bodies, form vertical and horizontal collaboration networks to establish and promote diversified ecological compensation mechanisms in ecotourism cooperation areas, and support the construction of ecotourism facilities in less developed regions.

5.2 Strengthen the construction of cross-regional transportation facilities

It is important to build traffic network systems that strengthen cross-regional transportation connection facilities, improve the coordination of transportation services, operation mechanisms, and traffic signs between ecotourism destinations. This development should allow for effective connections between the infrastructure and service facilities in neighboring regions.

5.3 Enhancing the standardization of regional ecotourism development

It is necessary to establish standards for ecotourism public services, ecological facilities, tour guide systems, interpretation, public information services, etc. Moreover, management services should be tightly linked with these standards, forming a standard-specified and function-perfect public services system to comprehensively promote cross-regional ecotourism public services.

5.4 Improving security services

It has been suggested that ecotourism destinations develop and implement a security strategy. To ensure ecological conservation and tourist safety, security laws and regulations, tourism insurance systems, ecotourism rescue procedures, etc., need to be improved by applying scientific and technological methods with reference to China’s social public security system. Security management and supervision systems with multi-level networks need to be constructed.

6 Conclusions

Developing ecotourism is an important way to maintain the integrity of regional ecosystems. However, arbitrary governance often fragment ecosystems. Thus, it is crucial to create regional ecotourism collaboration systems built around natural zones, social and cultural similarities, regional economic synergy and policy integration.

To construct an effective governance pattern for ecotourism, we propose using classified and differentiated development measures, featuring coordination in space, policy, planning and gains, to solve essential problems like administrative barriers, government-led models and loose cooperation. Instead, a top-down pattern with active grass roots participation will be formed. It is worth noting that this paper presents a spatial development model of regional ecotourism collaboration proposed from the national level, which includes global guidance and can also play a role in the construction of cooperative models in some areas. However, due to China’s vast geographical area, specific problems vary from region to region, and more detailed institutional mechanisms may be needed to support diversified development meeting the needs of specific localities.

The development of ecotourism in China should focus on tackling cross-government and regional-segmentation issues. A comprehensive, cross-regional space management system should be constructed, covering ecotourism functional areas, cooperation areas, scenic byways, lines and nodes. Development priorities should be defined for different levels and support should be provided for construction of cooperation models, coordination mechanisms, institutions, security, etc. In this way, a regional collaborative development system for ecotourism that is appropriate to China’s specific environment can be established.

Table 2 Key tasks of China’s regional ecotourism development

<table>
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<tr>
<th>Functions areas (nodes)</th>
<th>Development Content</th>
<th>Goals</th>
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<tbody>
<tr>
<td><strong>National Ecotourism Development Area (NEDA)</strong></td>
<td>Define the function location and development direction of different areas</td>
<td>Forms featuring distinctive themes of regional ecotourism development</td>
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<tr>
<td></td>
<td>Break down administrative barriers, establish cooperation frameworks and mechanisms</td>
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<td></td>
<td>Formulate collaborative policies and development measures</td>
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<tr>
<td><strong>Ecotourism Cooperation Zone (ECZ)</strong></td>
<td>Break down administrative barriers, build coordination mechanism</td>
<td>Enhance regional cooperation, avoid redundant construction and product homogeneity, realize resource sharing, diversity development and coordinated development</td>
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<td></td>
<td>Strengthen transportation links, achieve cross-regional development</td>
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<td></td>
<td>Co-build regional ecotourism brands, enhance joint marketing</td>
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<td></td>
<td>Strengthen ecological and environmental protection</td>
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<tr>
<td><strong>National Ecological Scenic Byways (NESB)</strong></td>
<td>Renovate ecological landscape along the corridor</td>
<td>Build a representative eco-landscape industry belt of counties or regions</td>
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<td></td>
<td>Strengthen the construction of recreational services and supplementary camps</td>
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<td></td>
<td>Implement the protection of landscape resources</td>
<td></td>
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<tr>
<td><strong>National Ecological Tourist Routes</strong></td>
<td>Connect key ecotourism scenic spots and unified public services</td>
<td>Develop well-known ecotourism products, create a number of high quality ecotourism routes</td>
</tr>
<tr>
<td></td>
<td>Implement unified marketing and publicity for ecotourism products</td>
<td></td>
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<tr>
<td><strong>Ecotourism Destinations</strong></td>
<td>Improve destination infrastructure and raise public service level</td>
<td>Make destinations with international well-known brands</td>
</tr>
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<td></td>
<td>Increase policy support and propaganda promotion</td>
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生态旅游协作;影响因素;发展模式;中国

关键词: 生态旅游协作; 影响因素; 发展模式; 中国

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摘 要：生态旅游区域协作是联合生态资源开发，促进自然生态保护和实现区域发展的制度保障，也是解决中国生态旅游发展掣肘的关键。中国地域广阔，山地、水域等大型自然地理实体常常是行政区的自然分界线，受到行政体制分割的影响，这些地区的生态资源利用通常是独立分散式开发，造成地方政府之间生态旅游产品的低层次、重复建设，限制了我国生态旅游水平的进一步提高。因此，需要针对以上问题，构建符合我国国情的区域生态旅游合作的空间体系和模式。本文系统梳理了生态旅游区

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