Analyzing Regional Rural Tourism Development with a Cognitive Mapping Approach: The Case of Jiangsu Province, China

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Abstract This paper analyzes rural tourism development in Jiangsu province of China by using a cognitive mapping approach. The cognitive maps were elicited by nine focus group interviews in different regions of Jiangsu province. Cognitive maps were analyzed by using Decision Explorer's functions for domain analysis, loop analysis, and cluster analysis. The results indicate different key issues and internal structure of rural tourism system in northern and southern region of Jiangsu province. However, current land use regulation is the common bottleneck to limit rural tourism development for Jiangsu province.

Keywords Rural tourism · Cognitive mapping · China · Policy

1 Introduction

Tourism activity in rural areas has remarkably increased in many developed countries for more than 40 years, such as France, Spain, Austria, and the United Kingdom. Rural tourism has speedily developed and become an important concept of tourism in China as well during the latest two decades (Su 2011). It is helpful to improve the rural economy and to build a harmonious society for 'previously marginalized groups' in less-developed rural regions of China (Rvan et al. 2009).

Jiangsu is an eastern coastal province of China. It has the highest population density. The per capita GDP of Jiangsu ranks first in all Chinese provinces, shown on National Bureau of Statistic of China (2011). In recent years, the rural

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tourism in Jiangsu has a wide role to play in the rural development, such as job creation, farm diversification, promotion of local food and drink, interaction of related industries, and community cohesion. However, in the process of rapid development of rural tourism, there are many problems and difficulties to limit its sustainable development, such as inadequate infrastructure, lack of scientific planning and management, low-quality products, etc. In order to improve rural tourism development further, Jiangsu Provincial Tourism Bureau started to organize and conduct the Project of Policies and Strategies of Jiangsu Rural Tourism Development in 2011. This paper presents part of the research results of this project by using a cognitive mapping approach.

Cognitive mapping is a well-established method for eliciting, representing, analyzing, and comparing complex problems (Eden 2004). It has been used as a decision-making tool in general management studies. However, little use has been made of cognitive mapping in analyzing rural tourism development.

2 Rural Tourism in Jiangsu Province

Jiangsu is divided into 13 prefecture-level divisions (prefecture-level cities) (see Fig. 1). Rural tourism of Jiangsu province began in the late of 1970s. In the middle and later period of the 1990s, the rural tourism began to develop rapidly. At present, there are nearly 4,000 rural tourism sites in rural area of Jiangsu, including the forms of "Nong jia le" (Happy farm home) tourism, folk-custom tourism, rural eco-tourism, agro-tourism, leisure farm tourism, festival tourism, etc. Table 1 lists the total number of rural tourism sites with titles awarded by different official

1	Nanjing	2	Changzhou
3	Huai'an	4	Lianyungang
5	Nantong	6	Suqian
7	Suzhou	8	Taizhou
9	Wuxi	10	Xuzhou
11	Yancheng	12	Yangzhou
13	Zhenjiang		

■ Northern Jiangsu   ■ Southern Jiangsu

Fig. 1 The research region

Table 1 Rural tourism demonstration sites in Jiangsu

Titles	Official bureaus to award the title	Total number
National agricultural tourism demonstration sites[a]	China national tourism administration	124
National leisure agriculture and rural tourism demonstration counties	Agriculture ministry and China national tourism administration	3
National leisure agriculture demonstration sites	Agriculture ministry and China national tourism administration	8
National characteristics of the landscape tourist town (Village)[a]	Ministry of housing and urban-rural development of China and China national tourism administration	20
National historical and cultural town (Village)	Ministry of housing and urban-rural development of China	19
Provincial historical and cultural town (Village)	Office of housing and urban-rural development of Jiangsu province and office of culture of Jiangsu province	21

Note [a] Ranked 1st in China Mainland Provinces

bureaus in China. It indicates Jiangsu has rich rural tourism resources with great tourism value. The annual visitors are over 70 million now, accounting for about 17 % of the total visitors in Jiangsu province. People who work for rural tourism directly in Jiangsu are more than 260,000.

In the Opinions of the State Council on Accelerating the Development of Tourism Industry, it is reported clearly that China will continue to make people rich by rural tourism. Jiangsu Provincial Tourism Bureau drafted the Criteria for Classification and Evaluation of Jiangsu Provincial Rural Tourist Area (Spots) in 2009. Jiangsu Provincial Bureau of Quality Supervision officially promulgated and implemented it as the provincial standard in 2010. These regulations and standards improve Jiangsu's rural tourism development theoretically and practically. However, there are still many problems and limitations for developing rural tourism in practice for Jiangsu. What has been achieved at present? How achieved? What is considered important in policy and why? What are the problems? How to solve the problems by making new policies? This paper investigates these questions.

3 Methodology

3.1 Cognitive Mapping

Cognitive mapping alludes to an individual's ability to construct a mental representation of the geographical or spatial environment (Blades et al. 1999). It emphasizes on spatial cognition of the environment. However, the use of map-like constructs has been transferred to other domains to visualize how people

conceptualize, simplify,and make sense of complex problems (Huff and Fletcher 1990). Cognitive mapping has been extensively used in various areas of operations research and general management studies (Axelrod 1976; Eden 1992; Fiol and Huff 1992; Huff and Jenkins 2002; Kwahk and Kim 1999; Liu and Sature 1999; Heijden 2005). However, most of research on tourism and cognitive mapping has focus on visitors' spatial understanding of an environment in order to better study tourist behavior (Farsari et al. 2010). There are only a handful of studies using cognitive mapping as a management tool to understand tourism management (Copland et al. 2004; Farsari et al. 2010, 2011; Xiang and Formica 2007). Although there is a growing interest in using cognitive mapping in tourism research (Kahle 2003), very limited work has applied this approach to analyze tourism development and examine tourism policies and strategies in the context of Chinese regional rural tourism.

For analyzing tourism development, cognitive maps or models can be elicited by a set of concepts and relationships, which can reveal an individual's perception of the problem examined (Eden 2004). Concepts are the elements of the cognitive map. The relationships are represented by arrows pointing from one concept to another to the direction of the relationship. For example, a link between concepts A and B (A → B) means that A may have an effect on B or A may lead to B (Farsari et al. 2010). It is useful for structuring and exploring complex problems and can help decision makers to make better inferences of nonlinearity involved system (Rosenhead and Mingers 2001).

3.2 Data Collection

Qualitative and quantitative approaches are two basic types in cognitive mapping. The qualitative approach focuses on using the representation of concepts and relationships in the cognitive map to provide rich description of the perception of the subject being studied (Xiang and Formica 2007). Compared with quantitative approach, qualitative approach is relatively easy to see how each of the concepts and relationships relate to each other as well as the overall structure of the whole set of portrayed assertions. The most popular method for collecting data in cognitive mapping was face-to-face, semi-structured, in-depth interviews (Farsari et al. 2011). Interviewees can be asked directly about their "thoughts." Moreover, such qualitative data can be well documented and supported by some special software that allows the drawing and detailed analysis of the cognitive maps. In order to make the interviews more inexpensive and efficient, the cognitive mapping method used in this research was based on several focus group interviews. A focus group is a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs, and attitudes toward a product, service, concept, idea, or policy (Naomi and Henderson 2009).

Nine focus group interviews were conducted in March of 2012 at nine subregions of Jiangsu province of China, namely, Lianyungang, Xuzhou, Suqian,

Huai'an, Nantong, Suzhou, Wuxi, Changzhou, and Zhengjiang. Key persons in the focus group interviews are stakeholders of rural tourism, such as local farmers, rural tourism operators, and related officials. All individuals were initially contacted with E-mails providing information on the purpose of the research and main questions which may be asked in the interviews. Focus group interviews ranged from 30 min to 2 h, with the usual duration of about an hour. Respondents were free to talk first. And then questions were asked to elicit issues and relationships. For example, "Why is this considered important for local rural tourism development?" and "What kind of problems did you meet when developing local rural tourism?" Interviewees were encouraged to talk specifically about concrete policies of their own agency at the time of interview, as well as their personal suggestions and recommendations. Nine focus group interviews were recorded, transcribed, coded, and redrawn on a computer using special cognitive mapping software (Decision Explorer Version 3.3).

3.3 Data Analysis Method

Considering the similarity and differences of economic and rural tourism development within Jiangsu Province, two cognitive maps were identified to describe policies of rural tourism in the region. One for the northern region and one for the southern region (see Fig. 1). An example of the resulting two cognitive maps is shown in Fig. 2. Two maps were analyzed by using Decision Explorer's functions for domain analysis, loop analysis, and cluster analysis.

Domain analysis calculates the total number of input and output arrows of the immediate surrounding of a concept, which can reveal the key issues. Loop analysis is to identify both negative and positive feedback mechanisms, which are considered
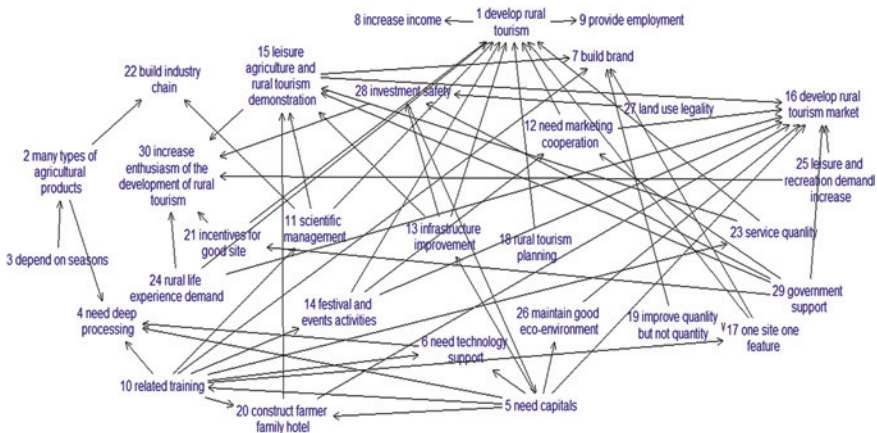

Fig. 2 An example of mape

important in policy formulation. Cluster analysis is to reveal groups of related concepts representing aspects of policies within a cognitive map (Farsari et al. 2011). Comparisons of different maps' properties can reveal the extent to which individuals construct the domain being investigated in a similar way to one another.

4 Findings and Discussion

4.1 Key Issues in Rural Tourism Development

Domain analysis is based on the premise that the more the concepts linked directly or indirectly in a concept, either as input or output links, the more important the concept is. The result of domain analysis for northern Jiangsu cognitive map shows that "related training," "develop rural tourism market," "need capitals," "government support", and "investment safety" are listed as key issues for rural tourism development. Cognitive map for southern Jiangsu area reveals that "extend visitor's stay time," "improve accommodation environment," "mine traditional culture," "standard tourism operation," and "new land use policy" are key issues. These key issues revealed from domain analysis also emphasize the weakness and important aspects for current rural tourism development in different area of Jiangsu province. It indicates that northern Jiangsu and southern Jiangsu area are in two different phase of rural tourism development. Northern Jiangsu area is still in the initial and developing phase, while southern Jiangsu in the mature phase. In fact, rural tourism in southern Jiangsu areas developed much earlier than that in northern Jiangsu area. Due to rapid economic development in 1990s–2000s, southern Jiangsu areas have enough capitals for rural development. And it has a good tourist market because of its location, Shanghai on the east and Zhejiang on the south, which are both main tourism market in China. Nowadays, stakeholders of rural tourism in southern Jiangsu province pay more attention to culture and standard operation issues.

It is obvious that most operators and owners of small rural tourism business lack management and marketing skills in running an efficient business. It is the fact that most of them have been little educated in culture, service, and technical training, which is especially the case for the less-developed rural areas of northern Jiangsu province. Necessary training is the most needed for the farmers. Capitals and market are another two key aspects to limit rural tourism in Northern Jiangsu.

4.2 Internal Structure of Rural Tourism Policies

Cluster analysis of cognitive maps explores the subsystems and their internal structure. After cluster analysis, the results show that there are three clusters in cognitive map of northern Jiangsu area and two clusters in cognitive map of southern Jiangsu area. Clusters of different sizes and different degrees of interrelatedness to other clusters (subsystems) were identified based on the relationships between the

concepts. For example, in cognitive map of southern Jiangsu, "explore traditional rural culture" is the most densely related cluster to the other cluster contributing to soft environment areas such as "need human resources in management and marketing aspects," and "rural tourism planning." In northern Jiangsu cognitive map, "need capitals," "need related training,", and "efforts in agricultural and rural tourism demonstration sites" are the most densely related cluster to the others.

Loops are important to conceptualize causations and investigate feedback mechanisms (Axelrod 1976). The cognitive map for southern Jiangsu area examined in the present research is characterized by the absence of loops. As explained by Farsari et al. (2011), mental model is simpler than reality and thus sustainable rural tourism policy can be much more complex than what has been mapped. Policy makers tend to rationalize and conceptualize the policy domain. The loop analysis of the cognitive map for northern Jiangsu area shows that it contains one loop. Three concepts, "need capitals," "improve infrastructure," and "safety environment of investment," form a loop. As far as the mental model concerned, making policies to create safety environment for investment is the most important for improving rural tourism in northern Jiangsu area. Land use policy has the most important effect for the safety environment of investment. The existing system of collective village ownership and current illegal land use way (farmland for construction) cannot provide safety perception for investors.

5 Conclusion

This research has examined the perceptions of stakeholders in Jiangsu province of China about rural tourism development. It has contributed to current studies of rural tourism by analyzing policy issues and their interrelationships in a case study using a cognitive approach. Considering, the regional differences with Jiangsu province, two cognitive maps have formed by nine focus group interviews. Given time constraints and availability of a second meeting arrangement, the cognitive maps have not been redrawn or commented by former interviewees. Nevertheless, this study reveals the complex of rural tourism system by defining the elements (concepts) and the relationships of the system under investigation. The multiple analysis techniques were employed in the cognitive mapping method. The results indicate that northern Jiangsu area and southern Jiangsu area are in different development phase of rural tourism. Rural tourism in northern Jiangsu area is still in the initial stage, while that of in southern Jiangsu area in mature stage. Stakeholders in southern Jiangsu area pay much more attention to extend visitor's stay time. Accommodation is the key issue for improving rural tourism further. Among many elements to limit accommodation development, land use issue is the most important one. To develop rural tourism in northern Jiangsu area, market, land, and capitals are the key problems to solve. Therefore, the key issue to limit rural tourism development in Jiangsu province is the current land use system in China. Useful information can be provided to policy makers.

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