

Research on Development of Low-carbon Tourism of Jiangxi

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Abstract. Jiangxi is rich in tourism resources. A lot of tourists are attracted to Jiangxi for sightseeing and traveling, which has not only brought economic benefits, but also caused damage to the beautiful ecological environment of Jiangxi to a certain extent. This paper analyzes the rich resources and policies of Jiangxi and the problem of environmental disruption faced by the tourism development of Jiangxi. On this basis, the paper suggests the concept and measures for promoting the low-carbon tourism of Jiangxi so that the tourism industry of Jiangxi can develop sustainably.

1. Introduction

The burning of fossil fuel has been emitted an increasing volume of CO₂ at an accelerating pace since the Industrial Revolution. The global emission of CO₂ from fossil fuel had increased eight times from 34 tons in 1920 to 295 tons in 2007^[1]. As estimated by the climate model under different situations, the global emission of green gas will continue to increase in the following decades. Tourism has always been known as a "smokeless industry"^[2]. However, with the development of tourism economy, the tourism resources of some areas have been excessively developed. The misconducts of tourists and tourism enterprises have led to excessive carbon emission, which has caused a serious disruption to the environment. The contribution rate of artificial factors to the global warming in the entire tourism sector has accounted for about 5-14%^[3]. In December 2009, the State Council issued *Suggestions on Accelerating Development of Tourism Industry*, which suggested cultivating the tourism industry into a strategic pillar industry in the national economy and a modern service industry more satisfactory to the people and required that tourism industry should save energy and water and reduce emission, manage energy based on contracts, reduce the emission of green house gases, actively develop cyclic economy and advocate low-carbon tourism^[4]. Low-carbon tourism is a new mode for sustainable development of tourism which applies low-carbon technologies, adopts the mechanism of carbon sink and advocates low-carbon tourism consumption so as to achieve a higher quality of tourism experience and greater benefits of tourism economy and social environment. The core concept of low-carbon tourism development is to achieve greater benefits of tourism economy, society and environment with less carbon emission^[5].

The tourism industry of Jiangxi is developing rapidly and has made wonderful achievements. Its development has faced many challenges such as the ones in ecological environment. For Jiangxi, an ecology-based province, the ecological environment is very important. However, with the development of tourism, the ecological environment has been disrupted. Each year Jiangxi attracts many tourists. For example, in 2015 the number of tourists to Jiangxi exceeded 380 million. Accordingly, a lot of carbon was emitted from the traffic and accommodation for the tourists. Besides, some accommodations, restaurants and scenic areas in Jiangxi are not deployed with sewage treatment system and oil-water separation system. Tourists to Jiangxi have generated garbage, sewage and



wastes, which has caused pollution and disruption to the ecological environment of Jiangxi to a certain extent. Therefore, in the face of these conditions, to build a beautiful ecological environment, Jiangxi province has strived to develop low-carbon tourism, which is a necessary choice for the sustainable development of its tourism industry.

2. Advantages for Development of Low-carbon Tourism of Jiangxi

2.1. It has favorable ecological environment resources for development of low-carbon tourism.

(1) Jiangxi has a forest coverage rate of 63.1%, taking the second spot in China. Now Jiangxi has 220 forest natural reserves (including 11 national natural reserves), 177 forest parks (including 46 national ones, ranked top in China), 77 wetland parks (including 23 national ones and 54 provincial ones), 5 world heritage sites, 4 world geological parks, 1 key international wetland and 14 national tourist attractions^[6].

(2) Boyang Lake is the largest fresh-water lake in China. As an important natural carbon sink, the vegetation of Boyang Lake Wetland has formed a huge biomass, which can fix and reduce CO₂ in the atmosphere, increase O₂ in the air, which plays an irreplaceable role in maintaining the dynamic balance of CO₂ and O₂ in the air, lowering the greenhouse effect and providing a living foundation for the mankind.

2.2. Favorable development opportunity

Jiangxi boasts distinctive advantages in regional strategies for it is covered by national strategies such as the Rise of Central China Plan, the Urban Agglomeration in the Middle Stream of Yangtze River, the Boyang Lake Ecological Economy Development Zone, the Revitalization Plan of Central Soviet Areas such as Gannan and the National Ecology Demonstrative Zone (Jiangxi). Jiangxi enjoys prominent advantages in ecological environment, so the development of low-carbon tourism has an important significance for the development of ecological economy of Jiangxi. The province has entered a new situation of integrated resource development and regional joint development, and ushered in a strategic opportunity period for development of low-carbon tourism industry.

3. Existing Problems in Development of Low-carbon Tourism of Jiangxi

3.1. Low-carbon tourism lacks funds

The development of low-carbon tourism of Jiangxi should depend upon high and new technologies and new energy, which require financial support. Funds are an important factor for the development of low-carbon tourism. In 2015, the economic development of Jiangxi was ranked 19th in China. Due to a relatively poor economic performance, the investment into tourism is insufficient, and the investment into low-carbon tourism is much less. Jiangxi does not provide enough support to the low-carbon industry, so it should strengthen the tax and finance for the low-carbon tourism industry.

3.2. Lacking low-carbon technology

The development of low-carbon tourism needs to depend upon energy-saving and environmentally friendly technologies and green energy such as solar energy and organic energy, replace cars with low energy consumption and carbon emission, use building materials free of pollution and saving energy and reasonably recycle and reuse garbage and wastes. However, the province is relatively weak in low-carbon environment protection technologies and still has a shortage in low-carbon tourism technologies.

3.3. Lacking talents of low-carbon tourism

Low-carbon tourism involves know-how with regard to tourism and energy. Highly professional, it is an emerging program rich in connotation. Its development requires high-quality composite talents who have mastered low-carbon and tourism know-how. Since low-carbon tourism is still a burgeoning program, Jiangxi province is relatively short of low-carbon tourism talents, especially in a serious shortage of high-quality managers in this area, which has affected the development of its low-carbon tourism industry.

3.4. Lacking a scientific planning

The low-carbon tourism resources of Jiangxi have been developed randomly, as a result of which the characteristics of its tourism resources cannot be well reflected, thus it has not formed a complete system of tourism products. The low-carbon tourism of Jiangxi lacks a reasonable planning. It has not guided the low-carbon tourism to develop scientifically and rationally following a concept of planning and piloting, nor well unified and planned its tourism routines, tourism products, tourism industry and tourism resources. It has no idea how to solve problems such as how to make up the shortage, how to develop advantages, how to set a clear positioning and where to find the breakthrough point.

3.5. Backward in low-carbon infrastructure

The low-carbon tourism of Jiangxi is still under a starting stage. The tourism facilities are still relatively backward in the tourist attractions and the traffic is also inconvenient. The infrastructure and service level involving tourism services such as food, accommodation and shopping are not complete enough, which has affected the development of low-carbon tourism of Jiangxi. The focus of low-carbon tourism of Jiangxi is low-carbon technical innovation, energy saving and environment protection. The low-carbon infrastructure in this area will affect the development of low-carbon tourism in Jiangxi to a very great extent.

4. Countermeasures for Development of Low-carbon Tourism of Jiangxi

4.1. Strengthening the publicity and education of low-carbon tourism

Only when the concept of low carbon enjoys popular support and becomes part of the sub-consciousness of the tourists can it gradually become a lifestyle of the tourists. Therefore, we need to publicize and spread the concept of low-carbon tourism among the public. Low-carbon education can enhance and change the outlook on environment and pattern of consumption of the tourism operators and tourists. It can enhance the awareness and quality of all people in low-carbon environment protection and energy saving and cultivate low-carbon production modes and lifestyles so that the whole society can consciously engage in the efforts to save energy, reduce emission and protect the environment and make concerted efforts to overcome the crisis of resources and environment faced by the mankind^[8]. In order to make low-carbon tourism of Jiangxi enjoy popular support, Jiangxi can fully exhibit its low-carbon tourism behaviors and concepts and the characteristics of its low-carbon tourism to the public by means of publicity videos, low-carbon products exhibition and display boards; it can hold seminars and forums on ecology of Jiangxi themed on low-carbon tourism and environment protection and organize lectures and training classes on low-carbon tourism lifestyles; it can organize lectures and courses on low-carbon know-how in the campuses to cultivate high-quality talents of low-carbon tourism; it can publicize low-carbon tourism via media such as radio, TV and network to enhance the influence of the construction of National Ecology Demonstrative Zone (Jiangxi) and establish a development benchmark for low-carbon tourism of Jiangxi. By adopting vivid and lively forms of publicity, it will make the concept of low-carbon tourism infiltrate into the brain and heart of the public, enhance their awareness and concept of low-carbon energy saving and emission reduction, actively guide the tourists to choose a low-carbon tourism mode, thereby encouraging the public and tourists to save energy and protect the environment and enhancing the popularity of low-carbon tourism of Jiangxi.

4.2. Scientifically planning the development of low-carbon tourism

A scientific tourism planning can avoid random development, the waste of tourism resources and disruption to the ecological environment due to lack of scientific and reasonable development. To scientifically plan the development of low-carbon tourism, it's required to investigate the aspects of the tourist destinations such as social environment, ecological environment, resource environment and traffic environment and the carbon sink resources of the region. It's required to confirm the development goal for low-carbon tourism on the basis of investigation, insist on integrating ecology, economy and social benefits in the low-carbon tourism, coordinate the development of the government, enterprises, tourists and communities, well design the boutique routines, projects and series products

of low-carbon tourism of Jiangxi. It's required to construct a guarantee system for the development of low-carbon tourism of Jiangxi, including the organizational guarantee, technical guarantee, talent guarantee, policy guarantee, financial guarantee and marketing guarantee.

4.3. Striving to promote low-carbon tourism of Jiangxi

The traffic should be environment friendly, so we should encourage tourists to take an electronic car deployed by the tourist attraction to enter the scenic area rather than drive their own car. Electronic cars can also be arranged between scenic spots to make it convenient for the transfer of tourists. In the scenic areas, tourists are encouraged to ride a bike or walk. To make it convenient for tourists, public bikes can be deployed at the scenic areas. Information about energy saving and environment protection should be provided. A "low-carbon tourism service center of Jiangxi" should be established to provide the tourists with low-carbon tourism information, and information regarding the rental and borrowing location of bikes, low-carbon hotels and restaurants. Low-carbon behaviors should be encouraged among the tourists to ask the tourists to try to reduce garbage and carry a garbage bag to take their own garbage out of the scenic area. Tourists are suggested to carry environment-friendly tableware for having meals. Low-carbon guestrooms are advocated, which won't provide disposable toothbrush, slippers and comb, etc. and are installed with facilities that save energy and water^[9]. Meanwhile, we should enrich the travel life, increase low-carbon tourism items, actively introduce low-carbon tourism routines such as strengthening the development of low-carbon tourism products such as forest tourism, wetland tourism, countryside tourism, sports tourism and technology tourism. In the scenic areas, we should actively advocate travelling by hiking or bike and design special low-carbon tourism routines for the tourists, set convenient bike rental stations and convenient stores for hikers, and issue *Guide to Low-carbon Tourism*, etc^[10].

4.4. Creating low-carbon scenic areas and demonstrative zones

Ecology is a brand of Jiangxi and the characteristics of tourism of Jiangxi. To protect ecology, we should carry out ecological civilization construction around ecological and green Jiangxi, which is helpful for protection of ecology and bio-diversity. For the tourism industry of Jiangxi, to save energy and reduce emission and reduce carbon consumption, it's very necessary to construct a model of low-carbon tourism demonstrative zones, which involves "foods, accommodations, traveling and shopping" services for the tourists. Namely, we should build low-carbon restaurants, hotels, traffic, scenic areas and stores.

It's an important measure for implementing the low-carbon tourism to create low-carbon scenic areas. The scenic areas are the main areas of a tourist destination. The concept of low-carbon tourism should be carried out from the aspects such as tourism planning, development of tourism products and arrangement of tourism facilities. The primary direction is to build cyclic scenic areas, namely, to strictly follow the "3R" principles of cyclic economy "reduction, reuse and recycle", adopt the ecological law to guide the tourism development and activities, and achieve a close-loop feedback and cyclic process of "resources--products--renewable resources" in the development of tourism resources and activities, and integrate the clean production of scenic areas, comprehensive utilization of tourism resources, ecological design of tourism products and sustainable consumption of the tourists into one^[11].

4.5. Increasing the funding, enhancing the technological content of low-carbon tourism

Funding is a key guarantee for the implementation of low-carbon tourism. Jiangxi should increase investment into the infrastructure for low-carbon tourism, particularly, perfect the construction of low-carbon tourism in the scenic areas, enhance the energy saving and consumption reduction of tourist destinations and scenic areas and protect its ecological environment. Since the foundation of low-carbon facilities is weak at the tourist destinations, it's very important to increase investment into low-carbon infrastructure. The government and competent department shall arrange funds for energy saving and emission reduction alone in their public fiscal budgeting, provide demonstrative cities of low-carbon tourism and pilot enterprises for environment protection with supports such as direct

investment, fund subsidies and loans with discounted interest, and guide the social investment and private capital investment^[12].

Technically, we should enhance the technological content of low-carbon tourism. We can introduce advanced low-carbon technologies from abroad and strengthen the research and development of low-carbon technologies of Jiangxi. Jiangxi should take energy saving and emission reduction technologies as its key strategic project, and concentrate the wisdom of technicians and increase the funding. It should promote the utilization of energy-saving and emission-reducing technologies and new energy such as wind energy, solar energy and biological energy in the tourism industry of Jiangxi. It should promote the implementation of new energy-saving products in the tourism of Jiangxi and the application of energy-saving electrical appliances in scenic areas and hotels involved in the tourism of Jiangxi.

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