DESIGN AND RESEARCH OF RESOURCE RECYCLING SERVICE SYSTEM IN TOURIST ATTRACTIONS: TAKING INTERNATIONAL CRUISES AS AN EXAMPLE

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ABSTRACT

The rapid development of traditional tourism has seriously affected the ecological environment of tourist attractions, causing many negative impacts. The high-density use of land, water pollution have affected the living patterns of local residents. The existence of these problems has accelerated the over-exploitation of tourism resources in tourist attractions and affected the ecological balance of tourist attractions. Based on the exhaustion and non-renewability of tourism resources, this paper designs the resource recycling service system which based on the theory of circular economy and sustainable development. This article will take a number of cases as an example to study the operation of the circulatory system in different places, reasonable classification of domestic garbage, reuse of food, water resources and other wastes, so that China's tourism industry in the process of construction and development, not only promote economic growth, but also in line with sustainable development design.

Keywords: Ecological environment, Tourism resources, Circular economy, Sustainability

1. CURRENT STATUS OF RESOURCE PROCESSING IN TOURIST ATTRACTIONS

At present, there is still a lack of systematic research and analysis on the development of circular tourism projects in domestic tourist attractions. In general, it is still in its infancy, and its concept is only scattered in eco-tourism and public green consumption. It is not enough to use the existing concepts to guide and practice the tourism development of tourist attractions, especially the research on the development of different types of tourism projects.

In the tourist season, due to the excessive carrying of tourists, traffic congestion and garbage are everywhere in the tourist attractions, which will increase the pressure in the region in the absence of control. For example, after the end of the Golden Week in 2018, the original landform of Danxia was trampled by tourists (Fig. 1); the beautiful flower sea was stepped on the ground; the garbage in the Emei tourist attraction was full in the mountain (Fig. 2). The resource recycling service system is inseparable from the tourist attractions' management, so the resource recycling service system should be taken into account when planning in the scenic area.

[Figure 1] The landscape is trampled by tourists [Figure 2] : garbage can be seen everywhere in mount Emei

2. RESEARCH ON THE RECYCLING PROCESSING MODE OF TOURISM SITE RESOURCES

2.1. modes and characteristics of international cruise resource processing.

As cruise ships are floating cities on the sea, many cruise lines have joined the "Save the Waves" wave protection project, and through 6 RE (Reduce, Reuse, Rethink, Recycle, Recycle, Repurpose given new USES), they have classified and treated household garbage in detail to maximize the utilization rate of resources.

Disposal of cruise waste:

(1) classified recycling:

Catalog	Example	The color of the bin
Combustible rubbish	Paper, plastic, rubber	Blue
Glasses	Bottles, glasses, bags, plates	Gray
Metal	Aluminum and metal cans	reen
Food	Raw and cooked food	Yellow
Drug	Blood bags, bandages	Red
Oil	Used kitchen oil	Black

[Figure 3] : Cruise waste sorting directory

(2) Partition processing

The waste treatment area of the cruise includes: incinerator area, waste sorting and storage area, waste cold storage room.

Combustible waste will be crushed before incineration and then incinerated in the incinerator area;

Unclassified garbage will be classified in the classification area and stored in the storage area;

Classification and treatment of wastewater: Waste water classification and treatment:

	Define	Source	Recycling way
Grey water	Lightly polluted water	Wash your hands, shower, and wash your clothes	Biofilm filter
Yellow water	Lightly polluted water	Biofilm filter	Filter
Black water	The toilet sewage	feces	Filters and bacteria

	Define	Source	Recycling way
Chemical water	Chemically contaminated water	Photo studio, copy shop	Separate collection
Harmful fluid	Oily fluids such as heavy oil and diesel oil	Engine generation	Separate collection

[Figure 4] Classification and treatment of cruise wastewater

2.2 Orange Island tourist attraction

After investigating the garbage disposal center of the Orange Island Scenic Area and the health status of the scenic spot, it was found that the garbage in the scenic spot is mainly composed of the following four parts: food, plastic, paper products and other garbage generated by tourists outside the scenic spot; Plant waste; kitchen waste and other disposable waste generated by the service industry in the scenic spot; paper waste generated by the office in the scenic spot. In response to the management requirements of smart cities, the Orange Island Scenic Area is now equipped with one intelligent driving small electric sweeper and two sanitation intelligent working robots, etc., engaged in watering and garbage cleaning.

[Figure 5] : Plant waste [Figure 6] : Kitchen waste bin

2.3 Case summary

According to the above case study, most of China's scenic spots are connected to the external geographical location relative to the cruise ship. Although space is limited, the continuous external connection allows it to accommodate more visitors. At the same time, the flow of tourists has also brought about a rapid increase in garbage. As the cost of garbage sorting, equipment maintenance and manpower has far exceeded the simple incineration and landfill, the general scenic spot does not have the ability to dispose of garbage, but only the garbage. Simple classification, then transported out of the scenic spot by garbage truck.

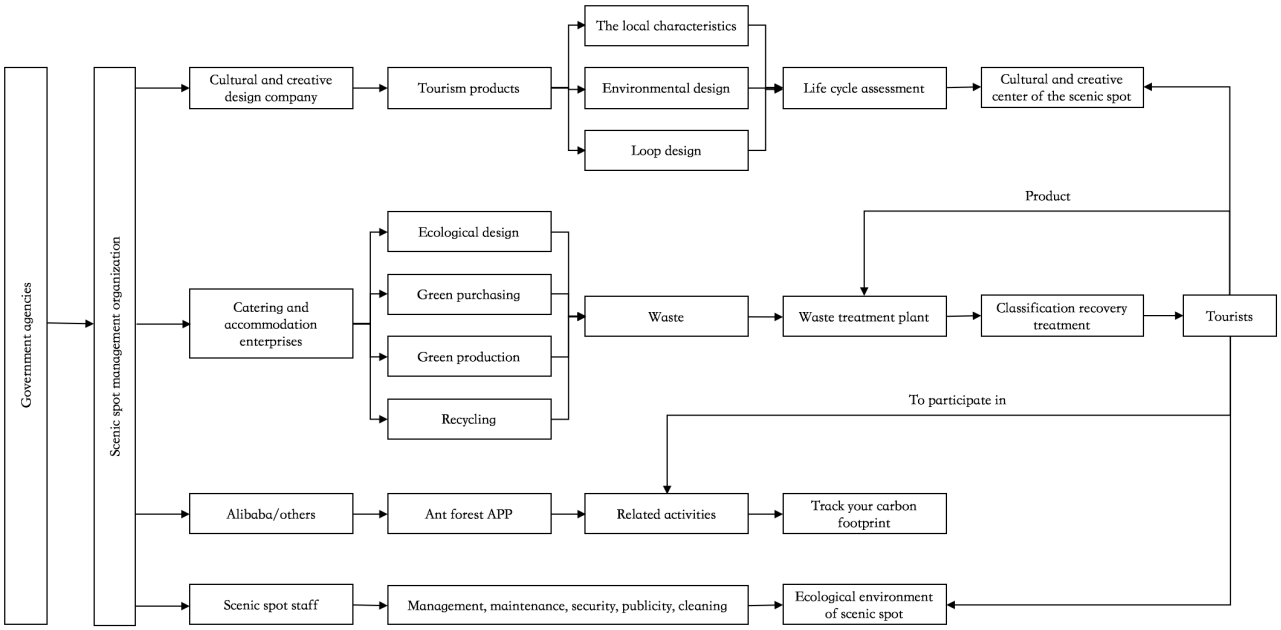
At present, cruisers are the majority of tourists from North America and Europe. Most of the tourists are middle class, with an annual income of 100,000-200,000 US dollars. In 2018, the Orange Island Scenic Area received a total of 7.38 million tourists. From the data of tourists in most scenic spots in China, it can be seen that the overall income and quality of cruise tourists are higher than those of domestic scenic spots, and the environmental awareness is strong.

3. SYSTEM DESIGN

3.1 System design of scenic ecological environment

The system takes the government and scenic spots as its leading role, and cooperates with cultural and creative enterprises, catering enterprises, accommodation companies, and Internet companies to integrate green design, green production, green purchase, green use, and recycling into all links. The negative impact on the scenic environment and other aspects is minimized, ensuring the rational use of resources, the normal circulation of natural systems and the right of human survival.

The United Nations Framework for Climate Change defines a "carbon footprint" as a measure of the total amount of carbon dioxide and other greenhouse gases released in human activities or accumulated throughout the life cycle of a product or service. The Orange Island Scenic Area is currently constructing the Orange Island Smart Cloud Platform. In the process of building a smart scenic spot, the scenic spot can cooperate with relevant Internet companies such as Alibaba to improve the carbon footprint of tourists by using the behavior of tourists in the scenic spot to encourage tourists to classify garbage.



[Figure 7] Tourism scenic spot resource cycle processsing service system

3.2 Waste Disposal Mechanism

The waste in the scenic spot can be divided into five categories. The five kinds of garbage are divided into three treatment methods. (1) The rotten garbage and liquid garbage can be composted, and finally the compost is applied to the park; (2) the general kitchen waste passes the food. The pulverizer processes and finally composts are applied to the park; (3) The bones, shellfish, combustible garbage and harmful garbage in the kitchen waste are collected and stored in the garbage center of the park, and finally transported out of the park by the garbage truck.

3.3 Relationship between various stakeholders in the scenic spot

Government: The government plays a leading role in model building. The government plays a decisive role in the protection and promotion of all aspects of the entire cycle model.

Tourist attractions' managers: Scenic area managers play a major role in model building. Responsible for the ecological environment construction, contact facility maintenance, service quality management, coordination of various activities and emergency handling of scenic spots.

Masses: The masses are the main body of implementation in the eco-environment model. For example, people with a high degree of education are more able to understand the meaning of waste sorting and are willing to start garbage sorting from their own.

Garbage disposal manufacturers: The construction of the cycle requires the construction of infrastructures such as composting plants and biomass fuel plants. The later research and development, service and training require standard processes, and the ecological cycle can be smoothly cycled.

Enterprise: Enterprise is a strong support in the eco-environment model. As a social role with certain economic strength, enterprises have the responsibility to contribute their own resources to the recycling of resources.

Designer: The designer plays an important role in propaganda and guidance in the planning of the scenic spot, guiding the tourists to classify the garbage, and also considering the design of the later garbage recycling process.

4.SUMMARY AND OUTLOOK

This paper studies the service mode of the scenic area resource recycling system and analyzes its application in the scenic area management. There are three aspects to the conclusion: (1) The construction of the service model of the scenic resource recycling system requires the government to support and actively guide all parties to participate in the green construction of the tourist attractions; (2) the stakeholders involved in the construction of the scenic spots need to comply in various fields. The policy of green production and resource recycling; (3) The waste treatment system of the scenic spot can learn from foreign advanced treatment methods and combine local characteristics to improve.

As China does not have a complete system for the research on the recycling of scenic resources, this paper is still not deep enough in the research on the feasibility and negative impact of the proposed scenic resource recycling system. These need to be applied, verified, and implemented in practice. Improvement and improvement.

Nowadays, the concepts of smart city and smart scenic spot are gradually becoming reality and deepening into the life of the masses. Therefore, the scenic spot management organization should actively cooperate with domestic

advanced Internet technology companies to establish an ecological cycle of government, enterprises, scientific research institutions, tourists and natural resources. system.Because our country of scenic spot resources circulation processing research has not yet have a complete system, in this paper, the resource circulation processing system to carry on the preliminary study and exploration, to put forward the scenic resources circulation processing system can be sexually, negative effects and operational research aspects, such as to establish the system of evaluation is not enough in-depth, these all need to be done in practice application, verification, improved and perfected.

BIBLIOGRAPHY

1. A.E. Scheepens, J.G. Vogtlander, J.C. Brezet. *Two life cycle assessment based methods to analyse and design complex circular economy systems. Case: making water tourism more sustainable,* Journal of Cleaner Production, No.5, 1-12, 2015.
2. Klein, R. (2011). *Responsible Cruise Tourism: Issues of Cruise Tourism and Sustainability.* China's cruise tourism industry development prospects and investment strategy planning analysis report from 2018 to 2023
3. Jia Yushan. *Design and research on public service system of tourist attractions* [D]. Shandong jianzhu university,2017.
4. Wang ting. *Research on the design of intelligent tourism information service system based on tourism experience* [D]. East China university of science and technology,2018.
5. Che Yi. S*tudy on the operation mode of tourism circular economy in mount emei scenic spot* [D]. Southwest jiaotong university,2011.
6. Wang Shijin. *Research on scenic spot tourism development from the perspective of circular economy* [D]. Northwest normal university,2008
7. Yang Yanxin. *Application of circular economy model in tourism scenic spot management* [J]. Modern economic information,2018(12):383.
8. Wu Xiaomei. *Research on ecological and environmental protection of tourist attractions under the concept of circular economy* [J]. Low-carbon world,2017(14):7-8