

Sustainable Tourism Development: A Case Study of Western Island in China

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Abstract

Purpose: As an important part of the sustainable development strategy of world tourism, developing Marine tourism is an effective way to revitalize the Marine economy. The study examines to identify the impact of tourism development on the West Island from multiple dimensions, as well as the challenges that may be faced in the development process. Based on the field observation and analysis of the past literature, this study employs data from two different sources of information (secondary data, and interview data) that are examined and interpreted through content analysis methods and thematic analysis. The results reveal that the impact of Local residents living environment and Potential negative challenges of sustainable tourism destination construction has been the most important issues of sustainable tourism development in West Island. It includes four detailed issues, such as over-exploitation of natural resources, coastal environmental pollution, promotion of environmental protection plans in eco-tourism destinations, and protection of Marine life. From a practical point of view, this study draws the attention of tourism policymakers to the role of tourism development on the local tourism economy and tourism resources. And provide some data support and reference for academic research on island tourism and sustainable tourism.

Keywords: Sustainable Tourism, Tourism Development, West Island

JEL Classification Code: L83, O22, Q56

1. Introduction

At present, protecting the ecological environment and promoting the sustainable development of the economy and society has become the common goal of mankind. Undoubtedly, the realization of this goal will ultimately depend on the selection and development of specific industries. In short, the realization of sustainable development goals requires tourism planners to properly handle the relationship between economic construction,

environmental protection, and resource utilization through reasonable industrial structure, layout, and policies in economic development, to not only realize the purpose of economic development but also protect the natural resources and environment on which human beings depend.

In this process, Cai (2020) believes that tourism can realize the characteristics of small resource consumption, less pollution emission, and sustainable utilization of natural resources and the environment. It is regarded as a good means to improve the industrial structure, change the way of the natural environment and resource utilization, and reduce

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the pressure of economic development on the ecological environment and an industry with natural sustainable development advantages. In recent years, with the rapid development of Marine tourism in China, many small islands that were once unquestioned have welcomed new development opportunities. This includes West Island, 35 kilometers east of Sanya City. The unique natural tourism resources and time-honored traditional folk culture resources make the West Island become the first practical destination for sustainable tourism construction in Hainan Province. In the past few years, the West Island has received sufficient national development policy support and a large amount of capital input. Since 2018, the Chinese government has promulgated more than a dozen laws and regulations on sustainable tourism construction. Meanwhile, West Island has received 1.5 billion yuan in construction funds from the central government over the past four years (Statistical Bulletin of National Economic and Social Development, 2022). But it is obvious that while the rapid development of tourism has brought huge economic benefits to the local area, it has also brought some impacts on the natural ecology and local communities.

Huiying (2021) believes that to achieve sustainable development, island tourism developers must take environmental, policy, economic and cultural issues into consideration when formulating development plans. At the same time, from the perspective of the relationship between "self" and "other", we can also study the relationship between the host and the guest in tourism activities and believe that the concept of "ethical other" should be advocated in tourism development to facilitate the interaction between the host and the guest. In particular, the willingness and support of the residents of the island destination is the basic guarantee for the long-term development of the island destination tourism.

Given the above, the purpose of this study is to identify the impact of tourism development on Western Island in multiple dimensions and potential challenges from a sustainable tourism perspective. Through in-depth investigation and analysis of these impacts, researchers hope to provide a reference for the protection and development of Marine tourism resources in similar inhabited islands. The research objectives are set as follows:

- (1) To determine existing natural resources in West Island and the extent of the environmental damages following tourism development and activities.
- (2) To identify potential challenges in tourism development at the West Island and understand the issues influencing the locals' daily life and their sentiments toward tourism impacts.

2. Literature Review

Generally, the understanding of sustainable development is based on the book "Only One Earth" by Ward and Dubos (1972), who proposed that sustainable development is a trade-off logic between the concepts of development and protection. The theory focused on thinking about natural ecological environment protection. Since the industrial revolution in the 19th century, for nearly 200 years, mankind has been guided by the traditional outlook on development, which equates development with economic growth. At the same time, to develop the economy, the environment is destroyed, and resources are plundered, which has caused drastic changes in the ecological system, leading to serious natural ecological problems today. Therefore, the theory of sustainable development provides the foundation for the protection of the environment.

According to the Commission on Environment and Development (UNEP, 2005), sustainable development is "a process that meets the needs of the present without compromising the ability of future generations to meet their own needs". This definition implies that there is a link between economic development, environmental protection, and social equity, with each factor reinforcing the other. Sustainable development is based on the rational use of the world's resources and how humanity can benefit from them. Sustainable tourism refers to tourism that achieves growth without damaging the natural and built environment and preserves the culture, history, heritage, and arts of local communities. In addition, it means achieving a particular combination of the number and type of tourists whose activities at a given destination and the cumulative effects of the actions of the service enterprises can be sustained into the foreseeable future without damaging the environmental quality on which the activities are based (Middleton, 1998).

Kun (2020) believes that tourism resources should have dual characteristics, and the principle of dual development and interaction of natural resources and human resources should be considered. However, considering the geographical particularity of Marine tourism, most tourism activities will take natural resources as the core operation mode. But this does not mean that unilateral resource operations will yield the best benefits. Similarly, there is a certain market and economic logic to Chenjuan takes (2020) argument. He believes that tourism resources should be defined as various things and factors that can attract tourists, develop, and utilize tourism, and produce economic, social and environmental benefits. Different from the traditional tourism resource development logic, he believes that in today's era, the economic benefits promoted based on the theory of sustainable tourism development are an important dimension to measure the sustainable development of tourism. Combining with the core logic of sustainable

development, protection and development should be balanced. Over-exploitation and over-protection will affect the normal development of sustainable tourism.

Nonetheless, Jinghui (2020) proposed a relatively complete understanding of sustainable Marine resources. In his opinion, Marine tourism resources refer to the natural resources that attract tourists in the middle and far seas, including developed resources and undeveloped resources, Marine natural tourism resources, and Marine cultural tourism resources. At the same time, he believes that these resources need to create a stable recycling value to obtain more benefits. This theory puts forward the concept of "circulation", which is another way of understanding sustainable development. At the same time, cultural tourism resources are also related to the richness of sustainable tourism development. Not only is the concern for the natural environment, but culture is also an indispensable part.

3. Materials and Methods

3.1 Target Population & Research Target

In this study, qualitative research methods were used to collect data from managers and officers of Eco Center in West Island and local residents, and field observations were made to understand the changes in local conditions. Investigators set open-ended questions to interview visitors and residents in three different roles, allowing for more specific and accurate data. The researchers fully understand the attitudes of local residents and relevant community and government managers towards tourism development in the West Island, as well as the potential development issues and challenges in current tourism activities.

3.2 Research Method

Through the analysis of respondents' feedback, the researchers identified in detail the impact of sustainable tourism development on the West Island from different dimensions. The key informants of this study are the local residents and some community departments living on the West Island of Sanya City. The sample size used in the study was nine key informers, using purposeful sampling, a non-random sampling technique used in qualitative research. Theoretical saturation was applied to establish the sample size and the saturation point is considered to be reached when subsequent interviews can no longer obtain additional information (Guest et al., 2006). The interview method, and thematic analysis are used to analyze the interview data, and the final research results are expounded.

In addition, the study did use secondary data such as the Internet, journal articles, and textbooks as sources to support research development. All interviews were face-to-face, lasting more than 30 minutes each, dictated by the respondents and recorded by the researchers. Interviews were conducted in the Chinese language. Field observations and data collection were also completed in a week on West Island. The data were collected from May 18-23, 2023.

Table 1: Informants profile

Informants Type	Occupation	Gender	Age
Local Residents 1	Owner of Supermarket	Male	42
Local Residents 2	Owner of Restaurant	Male	35
Local Residents 3	Seafood Businessman	Female	31
Local Residents 4	Tour Guide	Female	28
Officer 1	Department Supervisor	Female	36
Officer 2	Staff of ECO Center	Female	24
Officer 3	Staff of ECO Center	Female	32
Officer 4	Manager of ECO Center	Male	47

Thematic analysis is a flexible approach that is independent of a particular epistemological framework. Qualitative research aims to provide an in-depth and detailed description and explanation of the research topic (Holloway & Wheeler, 2010), thematic analysis is a problem-oriented qualitative approach. Thematic analysis is not much different from grounded theory in the analysis process, but its core goal is not to find the core concepts that reflect the phenomenon nature of things on the basis of systematic data collection, and then construct relevant theories through the connections between these concepts, but to identify and extract the "theme" from the original data and analyze the research problem through the theme. Based on the study of the classic six-stage analysis method in the thematic analysis, in this study, the data collected during the interviews was coded and analyzed using Computer Assisted Qualitative Data Analysis Software (CAQDAS), an important tool for qualitative data analysis. After the interview, the raw data or transcripts of the semi-structured interviews were uploaded into software based on the number of participants. Following that, each transcript was coded using an open coding method to develop initial categories, while an axial coding method was subsequently used to identify the interrelationships among the open codes (Strauss & Corbin, 1990).

4. Results and Discussion

4.1 Tourism Resources of West Island

Table 2: Classification of tourism resources on West Island

Type of Resources	Category	Keywords
Natural Marine tourism resources	Geographical Landscape	Hills, Beaches, Rocks, Islands. Coral
	Sea Landscape	Waves, Tides
	Biological landscape	Marine life, Marine life habitat
	Weather	Sea sunrise and sunset, cold shelter area
Humanistic Marine tourism resources	Historical sites	War relics, cultural relics
	Building facilities	Lighthouses, harbors, docks, Bridges, cultural activity centers
	Tourism commodity	Seafood merchandise, Marine art and souvenirs
	Tourism activities	Undersea sightseeing, island landscape, fishermen's traditional life, maritime culture, Marine sports activities, Marine science knowledge, ocean exhibition

Source: Field Observation and ECO Protect Center in West Island, Sanya City

4.1.1 The restoration and protection of the ecological environment were not emphasized in the early stage of tourism development

Due to its special geographical location, the Marine Island biogenic system has two phases of sea and land, and its resources have unique diversity, and complete composition but simple structure and very fragile. Based on this, the island development must put the protection of the ecological environment in the first place and develop in the protection. The tourism development of West Island must take the road of eco-tourism, pay attention to the ecological experience of tourists and the protection of the ecological environment, and emphasize the unity of the three major benefits of ecology, economy and society.

According to the information obtained from the ECO Protect Center in West Island, there was a large area of virgin forest on West Island.

“In the 1970s and 1980s, due to the lack of energy on the island and the weak awareness of ecological environmental protection, a large number of trees were cut down to use as fuel for living. As a result, a large number of trees on the island were cut down, resulting in serious soil erosion and the only reservoir had dried up”.

“There were hundreds of macaques on the island, but fewer than 10 remain due to habitat loss and indiscriminate hunting. At the beginning of the tourism development of the West Island, the development subject did not take active measures to restore the ecological environment of the West Island but cut down some of the original trees and protect the sea defense forest of the island, and built winding roads

and amusement facilities”.

At present, tourists are presented with bare mountains and sparse shrubs, which cannot provide tourists with an excellent ecological experience and fail to effectively develop tropical island eco-tourism in combination with the characteristics of West Island.

4.1.2 Tourism development has caused damage to the coastal ecology to a certain extent.

The coral reef biosystem is one of the most diverse biosystems in the whole world, and it is also the most fragile and vulnerable biosystem in the ocean. Once a coral reef is damaged by natural or man-made damage, it will be very difficult to recover. In the process of tourism development in West Island, Marine and coastal engineering, production and domestic sewage pollution to water quality and tourism activities have a great impact on the coral reef ecosystem. Noise generated by tourism activities such as island speedboats, light viewing boats, banana boats, sailing boats, sea fishing and other water recreational activities, disturbance of current and sediment, oil spills caused by boat accidents, discharge of oily wastewater, and excessive baiting of fish will all hurt coral reef health. The effects of the range, cumulative over time, will lead to the degradation of coral reefs. In addition, there is still illegal personnel on the West Island digging coral to sell in the market phenomenon. Under the influence of Marine development activities, the degradation of coral reefs in the West Island is very serious, and the coral coverage of living reefs decreased from 47.31% in 2016 to 35.90% in 2019 to 29.30% in 2021. The coral coverage rate of dead-formed reefs showed a gradual upward trend, which was 4.81% in 2016, 7.41% in 2019, and 9.50% in 2021. (Data Source: Interview Record) The West Island coral reef ecosystem is currently in a sub-health state, in which the water environment and biological residue are in a healthy state, and the habitat and biological indicators are in a sub-health state. Coral is the most valuable resource for tropical island tourism, and based on the current situation, its sustainable development will not be sustainable.

4.2 Thematic Analysis

4.2.1 Open coding

The software Nvivo12.0 is used to analyze the sentences in the texts and extract the key concepts. The repeated contents are merged, the contents with little correlation with the research topic are removed, and 4 core concepts are finally determined. Then, according to the meaning and internal relations, the concepts are preliminarily summarized to form 4 initial categories, which are Overexploitation of resources, Coastal environmental pollution, Conservation of natural resources in tourist destinations, and Coral ecological environment protection (Table 3).

Table 3: Opening coding processes

Expression of Texts	Conceptualization	Primary Categorization
“The hardening of tourist routes is too serious. Although the scenery here is very good, I cannot freely visit. Because every place is guarded. Lack of fun and freedom to explore. At the same time, I feel that there are too many man-made scenic spots, I want to see the natural island scenery, and I feel that the artificial development of the island is a little excessive. There is little natural vegetation, and it is all artificial cultivation.”	Tourist routes, freedom, artificial attractions, natural scenery , Artificial planting.	Overexploitation of resources
“The construction of the scenic spot is very good, but there are many bad sanitary statuses that no one has to deal with. In particular, the domestic garbage of local villagers is piled directly on the beach, and the hot weather will produce a pungent smell. At the same time, I found a lot of oil in the sea, probably from fishing boats.”	Beach litter, oil pollution	Coastal environmental pollution
“West Island seems to have a high degree of tourism development. But I don't think it's a good thing, because so many natural resources have been destroyed that it's hard to be sure that this place will remain in its current good ecological state in a decade or so. Especially in the absence of vegetation, the survival of many animals may be affected”	Ecological sustainability, environmental status of plants and animals, destruction of natural resources	Conservation of natural resources in tourist destinations
“The biggest feeling of this trip to the West Island is that it is difficult for me to see as much coral as before. Three years ago there was a lot of coral under the water, but this time I saw very little of it. At the same time, the number of fish has decreased. It feels	The ecological environment of Coral population, Sea water quality	Marine ecological and environmental protection

Expression of Texts	Conceptualization	Primary Categorization
like the quality of the water here has gone down. The government should take a look at this.”		

4.2.2 Axial Coding

According to the attributes of the initial categories and their correlation, the cluster analysis is carried out, and two main categories are summarized, which are the impact of Local residents living environment and Potential challenges of sustainable tourism destination construction (Table 4).

Table 4: The results of axial coding

Main Category	Corresponding Category	Containing Concept
The Impact on Local Residents' living environment	Overexploitation of resources	Tourist routes, freedom, artificial attractions, natural scenery , Artificial planting.
	Coastal environmental pollution	Beach litter, oil pollution
Potential Challenges of sustainable tourism destination construction	Conservation of natural resources in tourist destinations	Ecological sustainability, environmental status of plants and animals, destruction of natural resources
	Marine ecological and environmental protection	The ecological environment of Coral population, Sea water quality

4.2.3 Selective Coding

According to the internal relations between the two categories, this paper summarizes the current state of sustainable tourism development in West Island. The results show that there is an interactive relationship between the impact of tourism development on the lives of local residents and the potential challenges faced by tourism destination construction and the sustainable tourism development of the West Island, so an analysis model of sustainable tourism development of the West Island is established.

Currently, the sustainable tourism development of West Island is confronted with two interconnected directions that require attention and progressive thinking. Firstly, the rapid growth of tourism on the island has had negative impacts on the lives of its residents. This includes issues such as overexploitation of natural resources and pollution of the offshore coral ecological environment.

At the same time, these two important issues also directly lead to some potential challenges to the sustainable tourism destinations on the West Island. Excessive development of tourism resources has brought resource protection problems to local communities and the natural environment, especially the destruction of vegetation and the impact of construction and household waste on environmental pollution. In addition, the pollution of coastal waters has also directly affected the originally rich coral ecological environment in the area, and indirectly led to the problem of Marine environmental protection.

In conclusion, the so-called sustainable tourism in West Island is facing great challenges. It is very important to formulate new development strategies from the aspects of paying attention to the impact of tourism development on the lives of local residents and the development and protection of resources in sustainable tourism destinations.

Based on the above findings, it is found that the development of sustainable tourism has brought some negative dimensions to the West Island. Through the analysis of the interview script, it can also be intuitively identified that the community and local residents have a high degree of recognition and willingness to participate in tourism development. They want to get value for their needs. However, they also do not want excessive tourism development activities to affect the protection of the ecological environment in the region and their peaceful way of life.

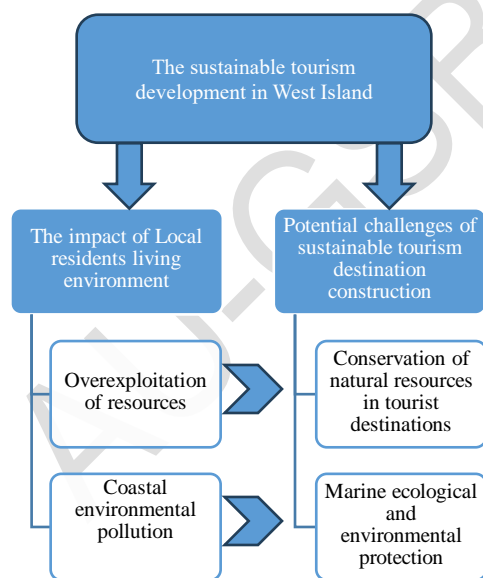


Figure 1: Model of sustainable tourism development of the West Island

In general, according to the relevant feedback of local residents and community managers and the on-site observation, the department of West Island can try to find the possibility of adjusting the sustainable development strategy in the following suggestions and try to solve the current two important issues of sustainable resource protection and the impact on the life of local residents.

(1) The government should guide the expansion of cultural tourism resource products and reduce the exploitation of natural resources

West Island is an inhabited island, with more abundant Marine cultural tourism resources. In the further development of tourism, there are ample opportunities to enrich Marine culture and traditional fisherman culture, highlight cultural styles different from other places, and break out of the "strange circle" of homogenized development of island tourism. It is not only necessary to explore the history and culture of the island but also to focus on the culture of the maritime age. Tell the story of the West Island well, refine the "turtle" and "fairy" elements in the story, carry out cultural and creative development, further enrich the supply of Marine tourism products, improve the tourism industry chain of the West Island, and promote the transformation and upgrading of the West Island tourism with the integration of culture and tourism. To develop yacht tourism, build a yacht base in Port, set up the Yacht Tourism Club, and provide private yacht services for guests of high-star hotels in the Sanya Bay area. Moreover, as a residential island with a history of 400 years, residents of West Island have been fishing for generations. Local residents can be hired for recreational fishing guidance. And tourism can be combined with fishing, fisherman's life experience, fishing culture performance and food consumption to enrich Marine tourism activities on West Island.

The above methods can effectively reduce the problem of over-exploitation of natural resources and environmental pollution caused by traditional natural tourism.

(2) Carry out scientific research activities and build Marine museums to promote the publicity of Marine ecological protection

Located in Sanya Coral Reef National Nature Reserve, The West Island boasts beautiful ocean scenery. In addition to developing Marine tourism, it is necessary to strengthen the awareness of Marine environment protection. Local government departments can build Marine museums on The West Island to research Marine biology, Marine environment, coral science, protection, and tourism, and promote awareness of Marine tourism ecological protection through tangible Marine displays. And through the annual fixed environmental protection, Marine cultural experience activities enhance the environmental awareness of residents.

At the same time, the government departments should also supervise, regulate, and control the enterprises involved

in tourism investment and construction on the island, and their damage and negative impact on the natural environment during the construction and development process.

5. Conclusions

In conclusion, as far as the survey results are concerned, the obtained data still have certain sample limitations. Therefore, further research needs to be expanded to a wider area and the urban area of Sanya to obtain more samples and information. In future investigations, researchers can also employ a hybrid model of quantitative and qualitative analysis within a sustainability perspective, including a holistic view of the concept. By using the interview method and thematic analysis, this paper analyzes and identifies two major problems facing the development and construction of sustainable tourism in the West Island: the impact on the life of local residents, and the challenge of sustainable tourism destination construction brought by ecological environment protection. The sustainable development of island tourism and Marine resources plays a very important role in the construction of sustainable tourism destinations in China. The corresponding administrative departments and governments should immediately pay attention to the construction progress of tourism projects and avoid the behavior of "destroying first" and "protecting" later. Strive to create a sustainable island tourism destination that balances people and nature.

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