

Sightseeing Under Environmental Governance: Taking Beinan River Dust Prevention and Improvement Project as an Example

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Abstract: Environmental governance involves a wide range of areas. In the past, environmental governance was mainly focused on environmental pollution prevention and control projects. Since the implementation of the Environmental Education Law, how to integrate environmental protection issues into people's living understanding has also been considered by local environmental authorities. This report takes dust prevention and control operations, one of the most difficult environmental education activities, as a case, and proposes to integrate environmental governance issues into tourism, and use the unique marketing strategy of creating value with local tourism. Through resource analysis, field surveys, and interviews, The author fine-tunes the model variables of tourism attractiveness in tourism competitiveness to include service availability, good ecological intellectual image, safety and stability, characteristics and cultural connection, which are suitable for tourism evaluation of natural environment areas. In addition, the author took part in small-scale sightseeing experiments and observations in the dust prevention and control river sections within the feasible range. The results obtained positive effects of tourism in text media, audio-visual media, and social platforms, and added characteristics and culture. Connectivity, as a result of successfully enhancing the tourism attraction and tourism competitiveness of the river section, further enhances the public's intellectual understanding of dust prevention and control measures, and is conducive to the handling of environmental education activities, providing environmental authorities as a profitable solution for reference.

Key words: dust control, water coverage, sightseeing model, environmental governance

1. Introduction

In the past, Taitung City was nicknamed "Sand City" due to the disaster caused by wind blowing sand. It originated from the formation of the northeast monsoon airflow from September to February of the next year, and the rock sand, river sand, and sea sand in the bare land along the path of the northeast monsoon Sand and other sand sources were brought into the urban area, causing the concentration of airborne particulate matter PM10 in Taitung City to rise, forming the situation of Sand City. The Beinan River Dust Control and Improvement Plan is mainly to improve the air pollution caused by wind and sand dust,

so that the residents in the area can have a good quality of life. Since the places where dust is prone to occur are mainly the estuary of the Beinan River and the area around the estuary, so carry out water covering and green covering operations for the river section and the sea estuary.

1.1 Prevention and Control Methods of Beinan River Dust

Beinan Creek is one of the nine rivers in Taiwan that are heavily dusted, with a total length of about 84.35 kilometers. The upper reaches are Xinluwu Creek, which originates from the Beinan Mountains in the central mountain range. The sight and name of Taitung's "Sand City" originated from the northeastern monsoon blowing Beinan River sand and Haikou sea

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sand and dust to the downtown area of Taitung. Therefore, the place where the dust occurs in Xidi Haikou is also the main area for dust control. The relevant river section is the exposed section of stream sand and sea sand, with a total length of about 21 kilometers.

The prevention and control of Beinan River dust is mainly based on water covering operations. In order to use excavators to retain the stream water and cover the river land with ponds between the river channels, the method of using river water to fix sand can improve the river land during the autumn and winter dry seasons. For the exposed phenomenon, the construction

methods can be roughly divided into two types: fish pond-style water covering and terraced-field water covering (Fig. 1). In addition, security forests and windbreak forests have been planted in the relatively stable area away from the north bank of Beinan River to avoid the bare land. The loose sandy sand beds around the river bank have also opened up part of the beach to plant watermelon and other crops or use green-covered planting to fix the sand. Strengthen the coverage rate of planting to enhance the compaction of water and soil, and also adopt the straw mulching method to make up for the areas where green mulching is difficult to implement.



Fig. 1 The left is the water covering of fish farms [7], and the right is the water covering of terraced fields ([1] from the Ninth River Bureau).

1.2 Local Promotion of Tourism

Since the development of local tourism can be used as an industry to promote local economic development, for non-commercial areas with high natural resources but low population density, the tourism industry often becomes one of the important sources of local economic income, which in turn drives other local industries and improves the lives of residents. quality and create local jobs. The Beinan River is located in the eastern part of Taiwan. It is the main river and the largest river in Taitung County. The landscape beside the river is rich in landscape characteristics. Since the Ministry of Communications put forward a white paper on transportation policy to develop tourism in 2001,

eastern Taiwan has developed tourism due to its transportation and location, its long and narrow terrain, its sparsely populated land, and its rich natural landscape. tourism and adventure tourism), develop independent, deep-rooted and sustainable tourism industry [5], Beinanxi also develops landscape tourism under the trend of tourism.

In addition, since the enactment of the Environmental Education Law in 2017, the local authorities in charge of environmental education, in addition to conducting environmental education seminars, also hope that local people can learn about various local environmental governance issues, whether it is water pollution, air pollution, or garbage

disposal, through environmental education activities. However, not all governance issues can attract people to participate in related activities. Therefore, this report takes dust prevention and control operations, one of the most difficult environmental education activities, as a case, and proposes to integrate environmental governance issues into tourism, and use the characteristics of value co-creation with local tourism. The marketing strategy is provided to the competent environmental authorities as a reference for Xingli’s plan.

2. Research Methods

The object of this report is the dust prevention and control section of the Beinan River. According to the six classifications of sightseeing and recreational resources by the Outdoor Recreation Resources Review Commission (ORRR), tourism resources related to dust prevention and control in the Beinan River should be listed as The third category of

resources, that is, the natural environment area, refers to undeveloped public land, which is not only used for recreation, but also mixed with other activities such as rafting or animal husbandry [6]. Beinan Creek is divided into eight sections, including Zhonghua Bridge Section, Taitung Bridge Section, Liji Bridge Section, Luanshan Bridge Section, Baohua Bridge Section, Dianguang Bridge Section and Chishang Bridge Section.

Mainly use resource analysis method, field investigation method and interview method to carry out, and mixed with small-scale tourist attraction tentative analysis. After establishing the problem, the step-by-step method first collects various data for the research object, and then conducts a layered analysis of the tourism impact and analyzes the status of its small-scale experiments, and then presents the tourism image and data analysis results in a report. The exploration is accurate the process is as shown in Fig. 2:



Fig. 2 Exploration process.

And referring to the variables of tourism competitiveness model equation in tourism attractiveness and tourism resistance, the variables are fine-tuned regionally, as a feasibility explanation for the proposal proposed in this report. The original model is as follows [3]:

$$C_{kt} = a_0 \prod_{i=1}^m A_{kit}^{a_i} \prod_{j=1}^n R_{kjt}^{\beta_j} \quad (1)$$

Among them, C_{kt} represents the tourism competitiveness of the k-th place in the t-th year; A_{kit} represents the relative attractiveness of the k-th place in the t-year tourism attraction variable i; R_{kjt}

represents the relative resistance of the k-th place in the t-year tourism resistance variable j.

3. Results and Discussion

The purpose of the Beinan River Dust Control and Improvement Project is to prevent and control air pollution. Therefore, all projects are implemented with convenience and functionality in mind, without adding any elements that are conducive to sightseeing. They belong to the area of natural landscape tourism in the region (as shown in Fig. 3 on the left), compared to the tourism competitiveness of various natural landscapes in the region, the intellectual attraction of

the intellectual tourism part is slightly higher due to the inherent environmental knowledge value, but the



service convenience is relatively low.



Fig. 3 On the left is the Zhonghua Bridge section of the Beinan Stream Covering Project (photographed by the author), and on the right is the Liji Bridge section from [4].

Since the tourism competitiveness model (1) is applicable to urban tourism, the author uses the discussion method to fine-tune the four variables of tourism attractiveness in the model, such as service availability, good market image, peace and stability, and cultural connection. The variables are corrected to four tourism assessments applicable to natural environment areas: service availability, good ecological intellectual image, safety and stability, characteristics and cultural connectivity.

Under the sub-item considerations of the above four variables, the preliminary assessment can enhance the characteristics and cultural connection of the river section, so as to enhance the attractiveness of tourism and thus achieve the competitiveness of tourism. The trial of small-scale sightseeing spots and the small-scale control experiment will take part in the section of the Liji Bridge. In the year of 2022, the unique feature of this section is that in addition to the fish pond-style water coverage, it also incorporates patterns that are highly connected with the culture of tourists (such as Fig. 3), the shape of the double heart in Fig. 3, its shape is connected with the shape of the double heart stone in Penghu and the fishing culture of the aboriginal people, and has a high degree of cultural connection. Relevant works were reported on

the Internet by at least 10 media outlets such as United Daily News, China Times, and Penghu Times. They even called it a “secret place”. There are also more than 8 audio-visual media such as Taiwan TV, Formosa TV, and Eastern Broadcasting. According to industry reports, the exposure in regional online communities has increased, and the cumulative number of likes has exceeded 1,000. Discussions about this place also appeared in the tourism community, the attractiveness of tourism has increased significantly, and the number of on-site visits has increased, successfully achieving the tourism effect.

4. Conclusion

The prevention and control of dust is one of the ten strengthening measures of the Clean Air Action Plan Amendment Plan [2]. The relevant prevention and control work has been prepared since 2007 and has been in operation since 2011. The main sources are located at the estuary of the river bank, etc. The methods used involve water coverage, green coverage, security forests, and windbreak forests. Therefore, in addition to the Environmental Protection Agency and local environmental protection bureaus, they also share powers and responsibilities with the Water

Conservancy Administration, the Agricultural Committee, and the Forestry Bureau. Jointly prevent and control dust. Through field survey observation and small-scale tourism exploration, this report takes the prevention and control of dust in Beinan River as an example, and puts forward the strategy of integrating tourism elements into environmental pollution prevention and control projects to raise public attention to environmental issues, thereby promoting public awareness of regional environmental pollution prevention and control. In practice, it is recommended to discuss the possibility of enhancing tourism services with the Tourism Bureau and local agencies after in-depth analysis. In addition, based on the initial purpose of integrating tourism, it is to promote environmental education. After the service stability is enhanced, environmental education should be added. Knowledge and energy activities are included, and environmental authorities are provided as a reference for the Xingli plan.

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