

### Quantifying the Social Value of Ecological Services of Bamboo Attractions in Nantou County

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#### Abstract

In this study, we focus on the ecological and social value brought to people by various bamboo attractions in Nantou County. The main research objective is to investigate the types of social value that bamboo attractions in Nantou County bring to different townships, as well as the trends in their distribution. This study aims to contribute to the improvement of bamboo attraction policies and management strategies.

#### Method

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Fig.1 Distribution of Bamboo Attractions in Nantou County

#### **Survey Data**



Assigning Social Value to Each
Review Using Google Maps
Comments After Filtering Out Invalid
Reviews.

#### Model

F=1/D\*V

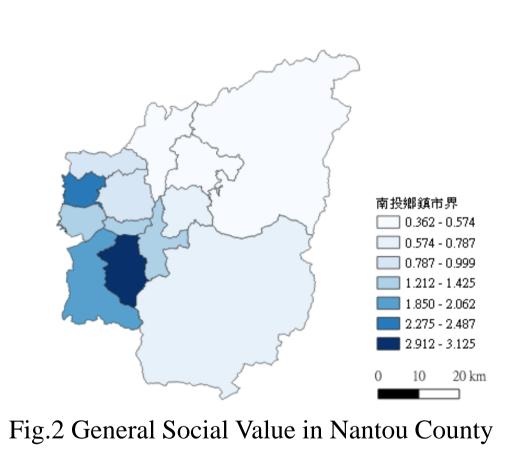
F=flows, D=distance(m), V= value

[Gravity Model]

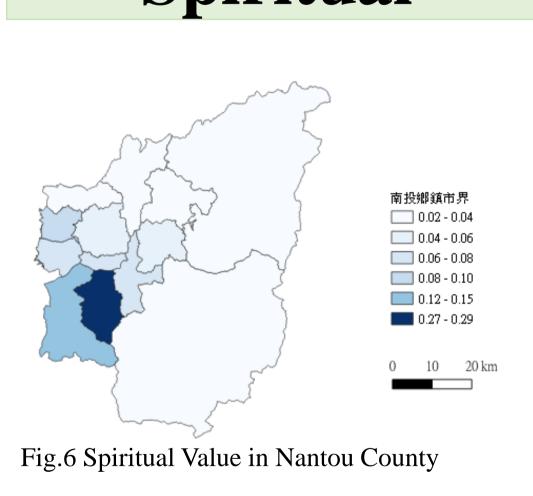
This model uses value and distance parameters to estimate flows between multiple locations. We assuming that flow decreases with distance and increases with social value.

#### Result

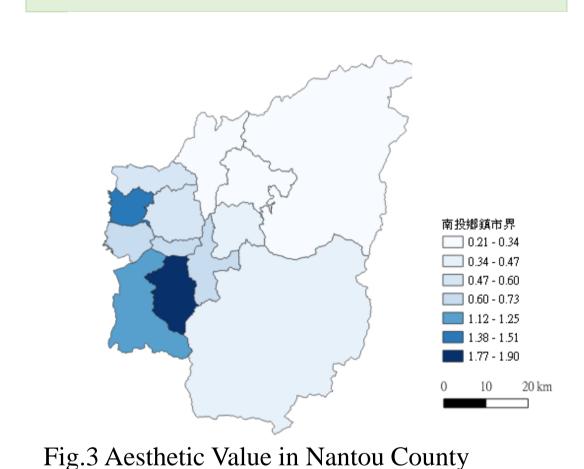
#### General



Spiritual



#### Aesthetic



## **Economic**| \$\frac{\partial \partial \partial

#### Cultural

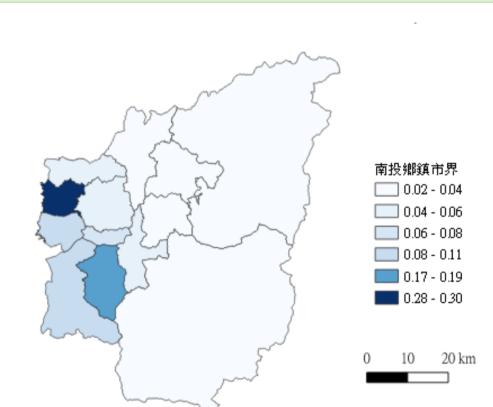
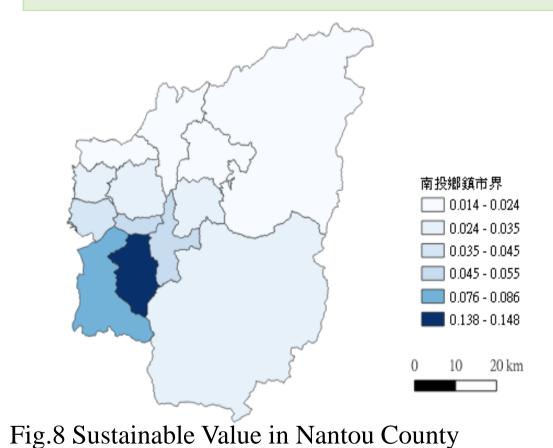


Fig.4 Cultural Value in Nantou County

#### Sustainable



Entertainment

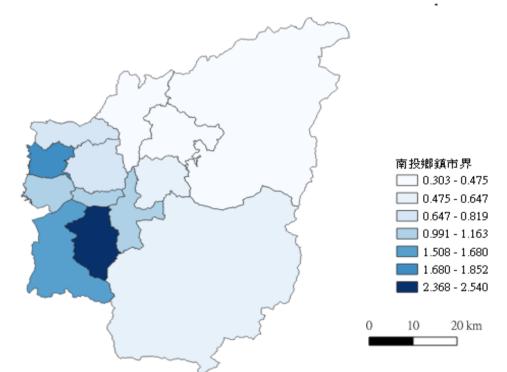


Fig.5 Entertainment Value in Nantou County

#### Historical

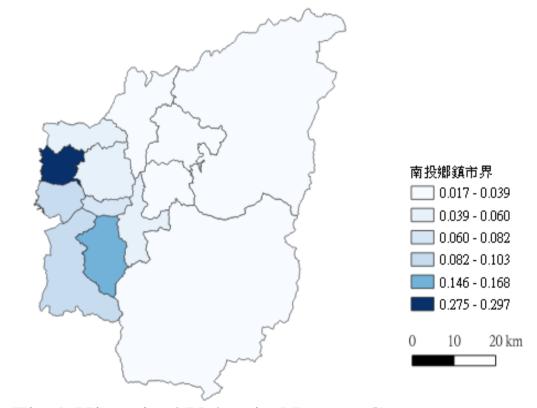


Fig.9 Historical Value in Nantou County

#### Conclusion

- 1. Western region of Nantou County exhibits higher levels of social value.
- 2. Nantou City, Lugu Township and Zhushan township standing out prominently.
- 3. The mountainous areas of Nantou County (Xinyi Township, Ren'ai Township) exhibit the most pronounced values in terms of sustainable, recreation, and aesthetic appreciation.

#### Policy Suggestion

- 1. Bamboo attractions in Nantou County exhibits an uneven trend of development currently.
- 2. The mountainous areas of Nantou County have the potential for developing bamboo forest ecologies.
- 3. Efforts could be made to expand bamboo tourism from its core townships to the surrounding areas in Nantou County.