Research Paper

The Role of Intangible Cultural Heritage in Sustainable Development of Small Towns

A Case Study of Heilongjiang Province

Jiuqi MENG, Key Laboratory of National Territory Spatial Planning and Ecological Restoration in Cold Regions, Ministry of Natural Resources; School of Architecture and Design, Harbin Institute of Technology, China

Qing YUAN, Key Laboratory of National Territory Spatial Planning and Ecological Restoration in Cold Regions, Ministry of Natural Resources; School of Architecture and Design, Harbin Institute of Technology, China

Dongyu Zhang, Key Laboratory of National Territory Spatial Planning and Ecological Restoration in Cold Regions, Ministry of Natural Resources; School of Architecture and Design, Harbin Institute of Technology, China

Hong Leng, Key Laboratory of National Territory Spatial Planning and Ecological Restoration in Cold Regions, Ministry of Natural Resources; School of Architecture and Design, Harbin Institute of Technology, China

Abstract

The northeastern region of China has a long history and unique folk culture that has bred a rich intangible cultural heritage, especially in small towns characterized by an urban-rural dichotomy. However, with population decline, small towns in Northeast China face a range of economic and ecological risks. Intangible cultural heritage is a potential tool for economic growth and conservation. Therefore, this study takes Heilongjiang, the most northeastern province of China, as an example, and uses data from 2010 and 2020, from 61 county-level administrative units. Firstly, hierarchical clustering is used to categorize the samples into five categories based on intangible cultural heritage, and then examines the relationship between intangible cultural heritage and the level of the economy and ecological environment. The results of the study show that towns with better intangible cultural heritage have better results in terms of economic and ecological aspects, but the rapid growth of intangible cultural heritage may pressure the environment.. This study suggests that intangible cultural heritage may be a tonic for small towns that are losing population, which not only protects and preserves the excellent Chinese culture, but also promotes economic growth and ecological conservation to a certain extent.

Keywords

Intangible Cultural Heritage, Heilongjiang, Balanced Development, Small Towns

1. Introduction

Intangible Cultural Heritage (ICH) is the core of human civilization, something does not manifest in materiality. ICH speaks to local history and collective memory; it also relates strongly to local economic development and environmental protection, thereby being important to sustainable development (Wang, Wen and Fang, 2019). The amount of ICH is often regarded as a key indicator of cultural diversity, especially

in small towns. The UNESCO (United Nations Educational, Scientific and Cultural Organisation) Convention for the Safeguarding of the Intangible Cultural Heritage asserts that cultural diversity has immense value for social, economic and environmental matters (UNESCO, 2022).

Located in the north-east of China, Heilongjiang Province has rich natural resources and a unique industrial historical background. In the early years of the People's Republic of China, lots of agricultural, forestry, mining and industrial small towns were established in Heilongjiang Province. These towns have rich folk culture, and many of them have ICH items certified by the government, such as the Hezhe ethnic group's Imakan rap, the Manchu shaman ritual, and other various traditional handicrafts, songs, dances, and festival activities (Wang, 2020). However, after the reform and opening up, these small towns face risks and challenges such as population loss, economic decline, and ecological damage in the process of industrialisation and urbanisation.

Culture is a more fundamental, profound and enduring force in the development of a people. ICH can enhance the sense of belonging of local residents; it helps to promote tourism and drive economic growth. Therefore, it is important to research on the impact of ICH on the sustainable development of small towns in Heilongjiang Province (Zhang and Zheng, 2023).This study analyzes the changes in ICH from 2010 to 2020 and explores its relationship with economic and environmental indicators, aiming to speculate on the role of ICH in simulating economic development and environmental protection in small towns in Heilongjiang Province. It provides theoretical support for planners and policy makers to formulate strategies for the protection and development of local cultural heritage, as well as a reference for the formulation of planning policies for the balanced development of small towns in Heilongjiang Province.

2. Literature Review

2.1. The State and Challenges of Intangible Cultural Heritage in Heilongjiang's Small Towns

According to UNESCO, intangible cultural heritage (ICH) includes oral traditions and expressions, performing arts, social customs, rituals and festivals, knowledge and practices concerning nature and the universe, and traditional craftsmanship (UNESCO, 2004). The Chinese Government has always attached great importance to the safeguarding of ICH. China's approach to safeguarding ICH has been recognised by the international community. Heilongjiang Province has accumulated rich ICH resources due to its unique cold climatic conditions, frontier geographical location and diverse ethnic cultures (Jiang, 2021). The ICH categories in Heilongjiang include folk traditions, traditional medicine, handicrafts, drama, dance, music, folk literature, as well as traditional sports, games, and acrobatics. At present, the Heilongjiang government has released six batches of provincial ICH lists, of which a large number are declared by counties, such as the Oroqen bear fighting dance in Jiayin County, the traditional brewing technology of Fuyu Laojiao wine in Fuyu County, and Kedong fermented bean curd in Kedong County. This reflects that with the gradual increase in public awareness of cultural heritage protection, small towns in Heilongjiang Province have actively promoted the exploration and protection of intangible cultural heritage, creating a lively situation of extensive social participation and protection and transmission for all (Ping and Li, 2011). Most notably, the Hezhen Imakan storytelling tradition, an important part of the Hezhen fishing and hunting culture, has been inscribed on UNESCO's List of Intangible Cultural Heritage in Need of Urgent Safeguarding (Intangible Heritage Home, 2023).

The ICH of small towns integrates rural culture and also has certain urban civilization characteristics, and residents have a strong sense of cultural identity towards it. Although small towns in Heilongjiang have abundant ICH, they still face challenges of protection and inheritance. In the ten years from 2010 to 2020, the population of Heilongjiang Province has decreased by more than 6.46 million, making it the largest

population loss in China. In severe provinces, many small towns have suffered from significant population decline (Tong et al., 2020). Well-educated young people are choosing to go to other regions for employment, resulting in a decline in cultural identity, a shortage of cultural bearers, and a lack of protection of the ICH (Khakzad, 2017). At the same time, good cultural resources have not been well developed, making it difficult to transform them into economic and social value. Against the backdrop of the economic recession in the Northeast, the lack of funding for small towns has limited the preservation and development of ICH, creating a vicious circle. Population loss has stymied the development of ICH-related endeavours in small towns in Heilongjiang Province, creating the need for a more systematic cultural strategy.

2.2. The Role of Intangible Cultural Heritage in Small Towns' Sustainable Development

Numerous studies have shown that ICH plays an important driving role in the economy, society, and ecology of small towns. Firstly, in terms of economy, ICH is conducive to drive local economic growth by promoting the development of industrial production and cultural tourism (Wang, Wen and Fang, 2019). Cultural tourism is an important component of the tertiary industry in small towns. On the one hand, cultural tourism can provide a large number of job opportunities, alleviate the crisis of population loss, and increase population vitality. On the other hand, cultural tourism can attract tourists and stimulate consumption, increase local fiscal revenue, and provide capital for the development of various undertakings. As a major growth driver for many small towns, cultural tourism attracts tourists, stimulates local consumption, and creates employment opportunities. For example, Ning'an County has attracted many young tourists interested in Qing Dynasty costume dramas by developing the theme tourism of Ninggu Pagoda, which has stimulated the local economic development. However, the impact of the tourism industry on the economy exhibits seasonal fluctuations (Corpo et al., 2008). ICH has a relatively stable economic impact on small towns due to industrial production. For example, Kedong County has the famous traditional food "Kedong fermented bean curd" in China. The industrial production makes this ICH continue to drive local economic growth.

Socially, ICH reflects the history of small towns and the collective memory of their inhabitants. Inheriting and developing ICH helps to enhance residents' sense of belonging and cohesion. Residents of small towns promote social interaction by organising cultural activities related to ICH (Xia, Chen and Hou, 2020). For example, events such as the Monkey Stone Mountain Temple Festival in Bin County and the Russian Basque Festival in Xunke County promote cultural transmission and enhance young people's sense of identity with traditional culture, thereby strengthening their sense of belonging to their hometowns and easing population loss (Su et al., 2020). However, to maximise economic benefits, some local governments have over-commercialised the ICH, which causes it to lose its original cultural essence and may lead to misunderstandings among residents, making it difficult to enhance social cohesion.

In terms of the environment, many traditional lifestyles reflected in ICH are closely related to natural ecology. ICH related to primary industries such as agriculture, forestry, and fisheries often emphasize the sustainable use of natural resources (Tani, Hashimoto, and Ochiai, 2016) to achieve the traditional Chinese ecological concept of "harmony between man and nature, and coexistence of all things". For example, the River Opening Ritual in Raohe County, the agricultural customs in Lanxi County, and the Northeast black bee farming techniques in Raohe County all emphasize the continuous acquisition of natural resources through respect for nature. The concept of harmonious coexistence between humans and nature is valuable for contemporary environmental protection. However, excessive development of cultural tourism to promote local ICH may put pressure on the ecological environment, increasing waste and energy consumption (Lin et al., 2021). Therefore, how to protect and inherit ICH while achieving environmental sustainability remains an urgent challenge to be addressed.

In summary, although ICH has significant value for the economic, social, and ecological sustainable development of small towns, its practical application still faces risks. How to further research and formulate policies to balance the relationship between development and protection is still an area that needs attention.

3. Methodology

3.1. Research Area and Data

The research scope includes all county-level administrative units in Heilongjiang Province that are not under the jurisdiction of the city. A few units have been omitted due to administrative division adjustments. Ultimately, the study area includes 61 county-level units, including 41 counties and 20 county-level cities (Figure 1). Among these 61 county-level unit samples, only two counties have experienced population growth in the past decade, while the rest of the county-level units have experienced population decline.

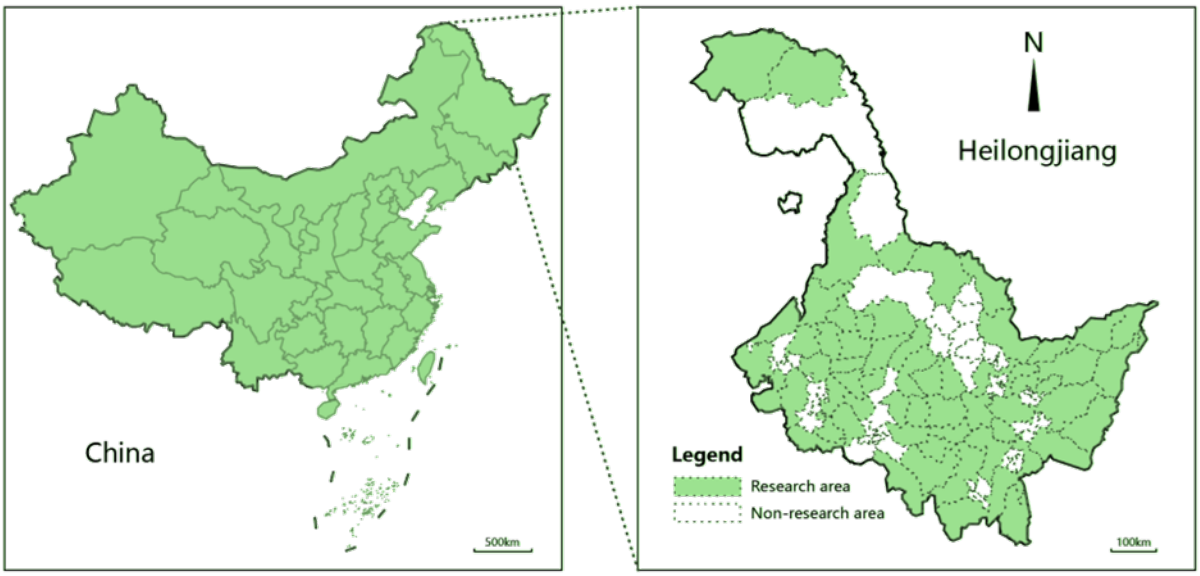

Figure 1. Research Area. Map Source: Amap Open Platform.

The data on the number of ICH projects comes from six batches of the Heilongjiang Provincial Intangible Cultural Heritage List on the website of the Heilongjiang Provincial Government. Date of per capita disposable income for both urban and rural residents was gathered from statistical yearbooks. They are economic indicators. NDVI data was obtained from NASA's MOD13A3 dataset, with annual NDVI values calculated using the maximum synthesis method, processed in alignment with the study area's administrative boundaries. PM2.5 data came from the high-resolution Surface PM2.5 dataset by the Atmospheric Composition Analysis Group at Washington University in St. Louis (Hammer et al., 2020), with yearly averages calculated per county based on administrative boundaries. NDVI and PM concentration are ecological indicators.

3.2. Research Methodology

This study uses hierarchical clustering method to classify small towns in Heilongjiang Province based on the changes in the number of ICH between 2010 and 2020. Hierarchical clustering divides the dataset into different levels to form a tree-like clustering structure. This method can reflect the hierarchical relationship of classes without the need to predetermine the number of clusters effectively.

The specific steps of this study are as follows: (1) Calculate the distance matrix between categories: Based on the data of ICH quantity changes from 2010 to 2020, use Euclidean distance to calculate the distance matrix between each small town. (2) Perform hierarchical clustering: Based on the calculated distance matrix, Ward D method is used for hierarchical clustering of small towns. This method gradually combines the two combinations with the highest similarity to form a new group and calculates the intra-group differences of the new group to minimize intra-group differences during each merge, ensuring that the new grouping structure remains compact. Repeat this process to gradually merge all samples into a hierarchical structure, namely a tree diagram, providing grouping criteria for the final clustering results clearly. (3) Determine the number of clusters: By observing the tree diagram and combining it with actual research needs, select the optimal number of clusters. This study ultimately classified small towns into five categories. The red line in Figure 2 marks the segmentation points of the hierarchy.

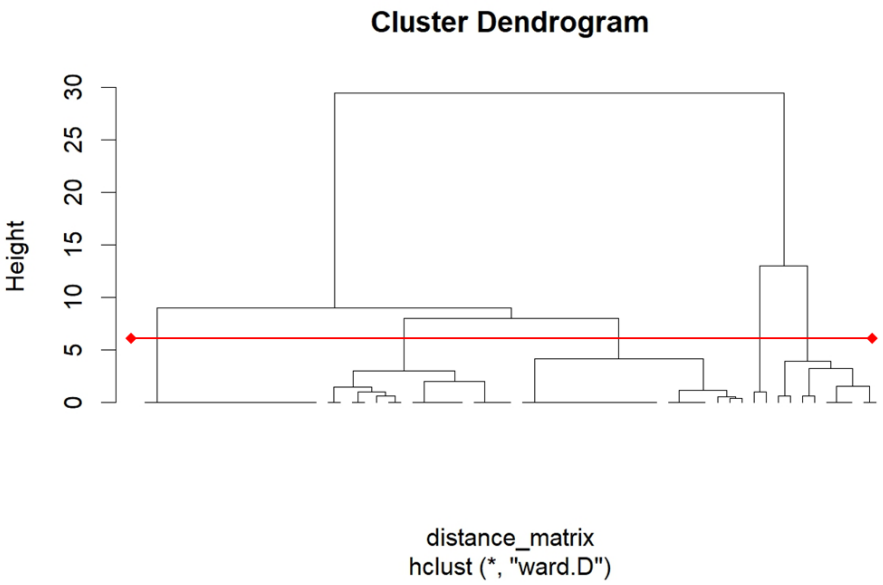

Figure 2. Dendrogram of Clustering. Source: author.

After clustering, further analyze the characteristics of each category and compare the similarities and differences between different categories to explore the relationship between changes in ICH quantity and economic and ecological indicators.

4. Result

4.1. Result of Clustering

The scatter plot and spatial distribution map of the small town classification results are shown as Figure3 and 4.

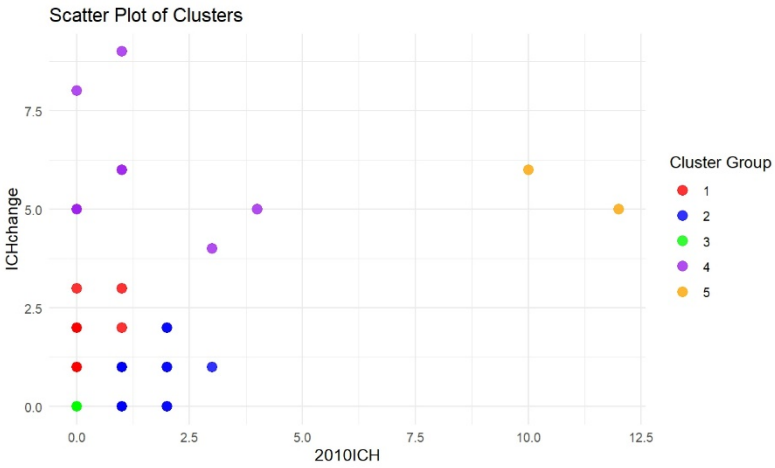

Figure 3. Scatter Plot of The Small Town Classification Results. Source: author.

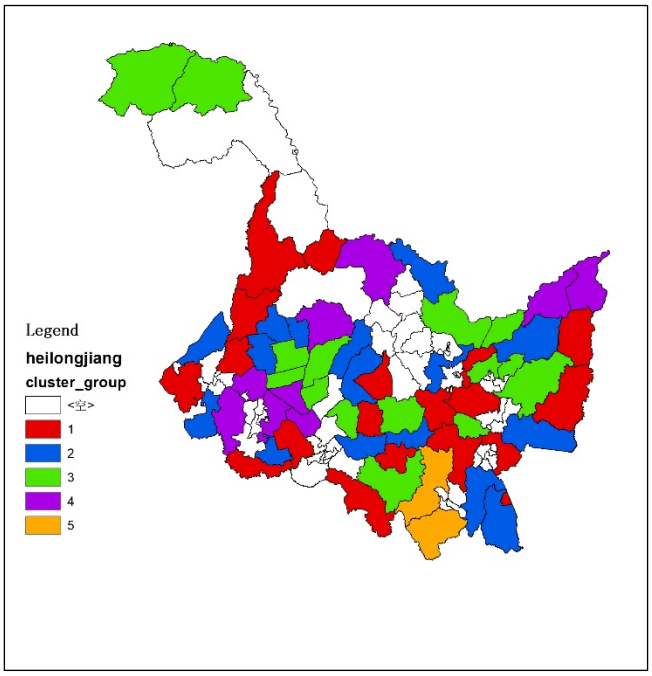

Figure 4. Spatial Distribution of The Small Town Classification Results. Source: author.

(1) Category 1 (Red): Weak foundation, slow development

In 2010, the number of ICH in these small towns was almost zero; from 2010 to 2020, the growth in the number of ICH remained minimal, with most towns not exceeding 2, indicating slow development of their ICH.

(2) Category 2 (Blue): Moderate foundation, stagnant development

In 2010, the number of ICH in small towns in this category ranged from 0 to 2, indicating a relatively weak foundation. But until 2020, the number of their ICH remained almost unchanged, suggesting that the development of their ICH has almost stagnated.

(3) Category 3 (Green): No ICH foundation

In 2010, small towns in this category had zero ICH, and this number did not change from 2010 to 2020, implying that they had no effect on the excavation of ICH..

(4) Category 4 (Purple): Moderate foundation, rapid development

In 2010, the number of ICH in these small towns ranged from 2 to 5. It is worth noting that the number of their ICHs has significantly increased in 2020, with each increasing by more than 5. This indicates that small towns of this type have achieved good results in developing ICH.

(5) Category 5 (Yellow): Good foundation, stable development

The only small towns belonging to this category are Hailin City and Ning'an City, two county-level cities. In 2010, the ICH number of these small towns was significantly higher than other categories, at over 10. From 2010 to 2020, their ICH numbers further increased, indicating a strong foundation in the protection and development of ICH.

4.2. Differences between Different Cluster Groups

After clustering, the study conducted an in-depth analysis for each category to reveal the relationship between ICH development and the economic and ecological indicators of small towns. The study uses the boxplots diagram in Figure 5 to show the distribution of these indicators in the different categories.

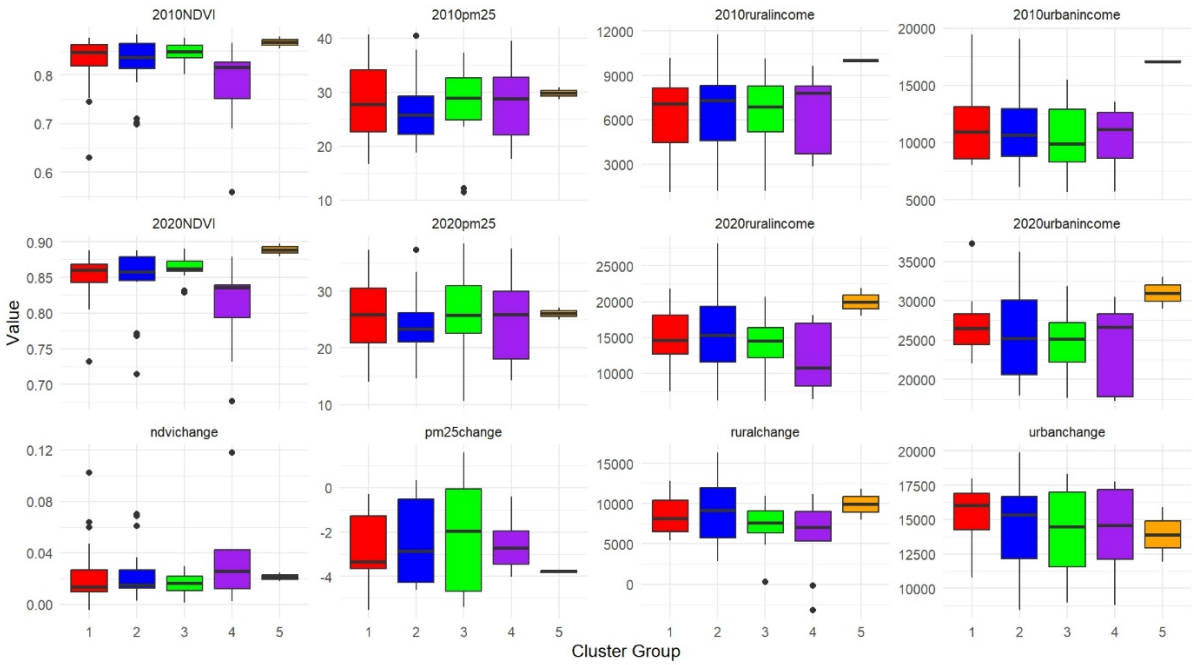

Figure 5. Boxplots of Various Fields by Cluster Group. Source: author.

(1) Ecological Indicators

NDVI: Boxplots from 2010 and 2020 showed that the NDVI levels and changes in the first three categories of small towns were similar and consistently remained at a relatively high level, showing that the vegetation coverage in these small towns was good and stable. The NDVI of the fifth category of small towns has always been the highest, implying that the ecological environment quality of these small towns is good. However, compared to other categories, the vegetation coverage of small towns in category 4 is significantly lower.

PM2.5 Concentrations: Overall, the PM2.5 concentrations in various small towns have decreased, indicating that the overall air quality in Heilongjiang Province has improved in the past decade. The

category 2 small towns have the best air quality among all categories. Although Category 5 small towns had the worst air quality in 2010, they also showed the most significant improvement.

(2) Economic Indicators

Per Capita Disposable Income of Rural Residents: From 2010 to 2020, rural incomes in small towns in category 5 have been significantly higher than other categories and have shown substantial growth, reflecting the more developed rural economies of these small towns. Small towns in category 4 show the least growth in rural incomes over the decade, resulting in their levels of rural incomes being significantly lower than those of small towns in the other categories in 2020. Small towns in category 2, which would have been average, had more growth over the decade, resulting in better overall rural income levels in 2020.

Per Capita Disposable Income of Urban Residents: In 2010, category 5 small towns show a fairly clear advantage in urban income over other small towns, and despite lower growth rates, they also continue to lead the way in urban income in 2020, reflecting the fact that these small towns have very prosperous urban economies. Meanwhile, small towns in categories 1 and 4 had relatively high town incomes in 2010 and show noticeable growth over the decade, especially in category 1. Thus, these small towns show relatively high town incomes in 2020.

5. Discussion

(1) Development strategy for category 1 small towns

The ICH foundation of small towns in category 1 is very weak, and their economic development is relatively average. Despite growth in urban income, the overall economic level remains at a moderate level. In terms of ecology, they have good vegetation coverage and improved air quality. However, due to the lack of ICH resources, these small towns find it difficult to promote ecotourism or environmental protection through the activation and utilization of cultural resources. The lack of ICH may hinder its innovative policies in managing natural resources.

These small towns should prioritize the excavation and promotion of ICH, and enhance residents' cultural identity through the development of cultural resources. Ecotourism can be developed with appropriate policy support. The government should provide economic incentives and educational training for projects with cultural potential to help these areas establish cultural industries. For example, Wuchang City has one of the best rice in China, Wuchang rice, but there is no ICH related to it. The local government can try to collect folk stories and legends related to the planting and cultivation of Wuchang rice, declare the ICH, and rely on it to develop farming theme tourism.

(2) Development strategy for category 2 small towns

The ICH foundation of small towns in category 2 is slightly better than that of category 1, but these towns have stagnated in ICH development. These small towns have the best ecological environment indicators among all categories, showing effective local ecological governance. However, the poor development of ICH limits the potential for achieving economic benefits through cultural tourism or ecological economy.

With a good ecological environment, category 2 small towns should pay attention to future prospects in developing cultural tourism and ecological economy. These towns can develop cultural and ecological tourism industries to promote economic growth. For example, Mishan City has Xingkai Lake, the boundary lake between China and Russia, which is the largest freshwater lake in East Asia. But there are only two ICH items about Xingkai Lake: Xingkai Lake legend and Xingkai Lake winter fishing, which leads to a lack of anchor points for the development of tourism in the local area. The government can fully leverage the rich

ecological resources and beautiful landscapes of Xingkai Lake to vigorously promote ecotourism, integrate cultural, ecological, and economic activities, and gradually improve residents' income levels.

(3) Development strategy for category 3 small towns

The small towns in category 3 do not have any ICH base. Despite their high environmental quality, their economic development is more mediocre, implying a lack of economic motivation. These small towns are unable to utilise ICH resources to convert them into economic value, and their eco-environmental protection efforts are under greater pressure.

The main task for Category 3 small towns is to identify cultural resources and initiate cultural industry support programmes. The government can encourage local cultural experts and scholars to participate in documenting potential ICH projects and formulating development and promotion plans. These towns can raise their profile by organising festivals and exhibitions. For example, the city of Mohe is the only place in China where the Northern Lights can be viewed and the polar day and night can be experienced, and the Northern Lights and Winter Solstice Festivals are regularly held, but there are no provincial ICH programmes. The local government should grasp this unique resource condition and support cultural industries related to festivals, aurora borealis, ice and snow, etc., so as to further enhance the cultural attractiveness of Mohe City.

(4) Development strategy for category 4 small towns

Small towns in category 4 are making rapid progress in ICH development. The economic growth of these small towns is slow, particularly in rural areas, highlighting a serious urban-rural gap; meanwhile, the rapid development of ICH may have triggered a conflict between tradition and modernization and promoted industrial development, though it has also increased environmental pressure.

These small towns need to balance economic, ecological and cultural objectives. Greater attention needs to be paid to environmental protection when expanding the cultural tourism industry. Government support policies should focus on sustainable strategies to ensure that the development of the cultural industry and environmental protection go hand in hand, and attention also needs to be paid to encouraging rural residents to participate in the cultural industry and to narrowing the income gap between urban and rural areas.

(5) Development strategy for category 5 small towns

Small towns in category 5 have a strong ICH foundation and are steadily developing. They demonstrate the balanced progress between cultural preservation, economic growth, and environmental governance. The government should encourage the two small towns in the category to serve as models for other towns, share successful experiences, and promote regional coordinated development. Other small towns should learn from their model of government led and socially engaged.

6. Conclusion

This research showed that there was a relationship between the ICH base and growth rate and the economic and ecological performance of these small towns. However, it could not directly prove that the growth of ICH had impact on economic growth or ecological improvement. Rather, the observations indicate that small towns with better ICH resources generally performed better in those two areas. ICH can thus be very instrumental to the sustainable development of small towns. Next-step studies should investigate best practices for ICH development and how cultural resources operate in varying social, economic, and ecological settings. Massive participation from all sectors, especially those dealing with

cultural identity and the involvement of residents, will be central in driving efforts toward protecting ICH and sustaining small town development.

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