Academic Journal of Management and Social Sciences
ISSN: 2958-4396 | Vol. 4, No. 3, 2023

Protection and Inheritance of Huizhou Ancient Architecture

Zizhen Fang [1], Le Zhang [1], Yujie Zhu [2], Yuanyuan Chen [1]

[1] School of Accountancy, Anhui University of Finance and Economics, Bengbu, Anhui, China
[2] School of Finance and Public Administration, Anhui University of Finance and Economics, Bengbu, Anhui, China

Abstract: Huizhou style ancient architecture is an important carrier of Huizhou culture, a concrete manifestation of history, and has rich cultural heritage. However, due to the development and impact of modern civilization, the lack of protective measures, and the outflow of personnel, many ancient buildings have been damaged or even dealt a devastating blow. Therefore, it is urgent to protect Huizhou's ancient buildings. The article provides a combination of ancient and modern methods for the protection of Huizhou ancient architecture, the use of IBM technology for digital protection, and the establishment of standardized institutional systems, promoting the protective development and utilization of Huizhou ancient architecture.

Keywords: Huizhou Ancient Architecture; Protection; BIM Technology.

1. The Current Situation of Huizhou Ancient Architecture

There are many ancient buildings with high historical, cultural, and commercial value. Xidi and Hongcun, as world cultural heritage sites, are typical representatives of Huizhou style ancient villages. In addition, there is also a national historical city, Shexian. In terms of quantity, Mount Huangshan City has 8144 ancient buildings before 1911 and 5294 ancient buildings between 1949 and 1911, totaling 13438 according to the statistics at the end of 2006 [1]. The numerous ancient buildings in Huizhou reflect the development and changes of Huizhou history, and are important historical materials for people to study Huizhou history today. A large number of ancient buildings in Huizhou are scattered and complement each other, presenting a fairyland of lakes and mountains on earth. It brings people visual enjoyment and psychological relaxation, and attracts the attention of countless people from around the world, making a huge contribution to the tourism industry in Huizhou.

2. The Problems Faced by Huizhou Ancient Architecture

With the rapid development of modern society, the damage caused to ancient buildings in Huizhou continues to intensify, resulting in a gradual decrease in the number of buildings each year. According to statistical data from the Huizhou Cultural Bureau, the number of buildings in Huizhou ancient dwellings is about 50 buildings per year, and the rate of reduction is constantly accelerating.

2.1. Structural and Lighting Issues have Led to Insufficient Matching with Current Residential Requirements

Most of the ancient buildings in Huizhou are constructed of wooden structures, which lack moisture and moisture resistance. Additionally, there are some issues with daily needs such as lighting, resulting in inadequate living conditions to meet the constantly improving living requirements.

2.2. Unaccupied Leading to Prolonged Disrepair

With the prosperity and development of people's lives, they pursue higher standards of living conditions, which has led many people to move away from their original homes. The increasing number of uninhabited ancient buildings has led to deficiencies in daily management, resulting in long-term disrepair and ultimately leading to the collapse of many ancient buildings.

2.3. Excessive Development Leads to Irreparable Damage

With the continuous development of the tourism industry, developers have carried out excessive development and renovation of some buildings in order to obtain more benefits, damaging the original ecological structure and causing irreparable damage to ancient buildings.

2.4. Insufficient Funding and Lack of Professional Protection Personnel

In the protection of ancient buildings in Huizhou, a large amount of financial support is required, but the annual special funds are limited, and the funds allocated by local finance are insufficient to maintain the supporting maintenance work of various cultural relics. Moreover, there is a serious shortage of professional protection personnel, with less than a hundred personnel engaged in cultural relics work. The lack of senior management and professional technical talents also makes human resources weak, and management methods outdated, making it difficult to form an effective management and protection system.

2.5. The Relevant Legal System Needs to be Improved

In terms of legal protection, although there are laws and regulations such as the Cultural Relics Protection Law and the Implementation Rules of the Anhui Provincial Cultural Relics Protection Law, there is a lack of more detailed legal norms, making it difficult to form systematic normative documents, and a lack of comprehensive coverage in terms of institutional guarantees. In addition, most of the protection work focuses

on the restoration of ancient buildings after they have been damaged. However, there are shortcomings in the early protection work, and it is necessary to strengthen standardized early work and take protective measures.

3. Protection Measures for Huizhou Ancient Buildings

Combination of multiple protection modes. Overall protection is a model of protecting ancient architectural complexes that have a certain scale and are not easily transferable. In 2008, Chengkan Village, Chengkan Town, Huizhou District, Mount Huangshan City, Anhui Province was selected as the "fourth batch of famous historical and cultural villages in China"; In the same year, the Ministry of Culture designated Mount Huangshan City, Anhui Province, as the national "Huizhou Cultural Ecological Protection Experimental Zone" and awarded the license [2]. We can sequentially delineate the core area, surrounding protection area, and transition area for the overall protection of such a large scale, forming a holistic enclosure protection model. For some Huizhou ancient buildings with good individual protection or as a typical representative, in-situ protection measures should be adopted. For some key buildings that cannot be preserved on their original site, reasonable relocation and protection should be carried out without changing their external conditions and structure. This is an extension and supplement to the original protection.

3.1. Combining Ancient and Modern Times to Strengthen Protection Awareness

Relevant departments can establish a museum for the protection of Huizhou ancient architecture, and move some of the ancient buildings to the museum for display. The box style and detailed architectural style reflect the true inheritance history of Huizhou. This is not only a cultural baptism, but also an important local tourism resource. In addition, it is also possible to organically integrate the design concepts of modern architecture with the elements of ancient Huizhou architecture, grasp the innovative scale and style of the two, and design modern new buildings that are elegant yet gentle, allowing people to experience traditional Huizhou aesthetics while enjoying a convenient living environment. In this, one can not only feel the unique flavor of Huizhou traditional architecture, but also see the shadow of modern elements, increasing its appeal to ordinary people. By attracting more people to have a deeper understanding through rich content, we can better appreciate the value and significance of Huizhou ancient architecture, and enhance people's awareness of protection.

3.2. Utilizing BIM Technology to Strengthen Digital Protection

The application of Bim technology is mainly divided into two steps: the first is the collection of building information, and the second is the establishment of building models. In the collection of information, it is necessary to collect complete parameter information of various buildings, mainly including spatial information and various attribute information. The collection of spatial information refers to the collection of information about the physical entities of Huizhou ancient architecture, including the shape, proportion, size, direction, spatial layout, etc. of Huizhou ancient architecture. In traditional collection, traditional tools such as rulers and ladders are mainly used by staff for on-site collection, which requires a large amount of funds, takes a long time, and has certain risks. However, in BIM technology, modern 3D laser scanning and other technologies can be used to obtain all-round and high-precision information. It is easy to operate, has little external influence, and will not cause secondary damage to the field. The collection of attribute information refers to the collection of characteristic information of Huizhou ancient architecture, including building materials, technology, style, craftsmanship, history, culture, and geographic information. The collection of attribute information is mainly obtained through existing data or relevant historical files [4] [5]. By analyzing past data and conducting relevant visits, investigations and references, more complete information is obtained. Build a 3D model using today's BIM modeling software based on the various data information and other relevant materials obtained. The basic unit of BIM building information model is "family", and each family element can define multiple types, and parameters such as size, shape, and material can be set for each type [6]. In the database, it can not only cover a large amount of information and components, but also quickly search and analyze them, fully reflecting the shape of the building. In addition, parameters can also be quickly adjusted during the modification process to achieve different states and adapt to different projects. All information can be shared and exchanged among them, reducing information barriers and barriers.

BIM technology, as a new modern digital technology, has an advantageous role in the protection of ancient Huizhou architecture. It can achieve the digitization of Huizhou ancient buildings, enabling more comprehensive and detailed feedback of information. It can improve the accuracy and precision of Huizhou ancient buildings, form better integration of various data information, and better monitor and optimize projects. The data information on online platforms has accelerated the dissemination speed, making it more convenient for people who want to understand Huizhou ancient architecture, reducing the steps involved, and reducing the difficulty of knowledge acquisition.

3.3. Establish a Practical and Feasible Management System and Mechanism

Relevant management departments should strengthen assistance in management, improve protection procedures, establish reasonable protection measures and scientific feedback mechanisms, and form a joint protection system. Government departments should improve legislation, provide legal basis, promote public participation in protection, strengthen cooperation and protection with the public, and conduct targeted inspections after the completion of protection work to promote effective progress of protection work, rather than ignoring the end. The government itself should strengthen its financial investment and widely absorb private investment, using market-oriented means to promote the inflow of social capital, and conducting multi-channel fundraising for the protection of ancient buildings. Establish a sound backup training system, provide unified and systematic management and technical guidance, and cultivate more talents for ancient building protection through expert guidance, improving the professional level and ability of staff to better complete protection work. Reasonable Development of Huizhou Ancient Architecture

3.4. Pay Attention to the Inheritance Role of Education

Strengthening educational inheritance, education is the middle path connecting innovation and development. We should pay attention to the role of education, integrate the protection of ancient Huizhou architecture into modern education, and better inherit this cultural heritage. In primary and secondary school classrooms, the unique aesthetics of Huizhou architecture can be demonstrated through pictures or videos. After class, students can be led to visit various ancient Huizhou buildings for a more vivid experience of the combination of natural and cultural landscapes, enhancing their deep understanding of ancient Huizhou architecture. Offering professional courses in universities, strengthening the research and restoration of ancient architectural history, and cultivating relevant talents can better inherit ancient architecture. In terms of external communication, attention should be paid to the dissemination of the tourism industry and the dissemination of Chinese language teachers. Through internationally influential Huizhou ancient buildings such as Xidi and Hongcun, more international friends should be attracted to enhance the dissemination of Huizhou ancient buildings. In foreign countries, attention should be paid to the role of Chinese language teachers in inheriting culture. In traditional culture teaching, Huizhou ancient architecture can be used as a material carrier to increase the fun and interactivity of teaching, so that international students can experience the diversity of Chinese culture and enhance the international reputation of Huizhou ancient architecture.

3.5. Cross Border Integration and Strengthened Publicity

Strengthen the combination of ancient buildings, Anhui Cuisine, home stay and other elements to promote the development of Huizhou tourism. Homestays can be modified and adjusted without damaging the original Huizhou ancient buildings, making them more suitable for living and living. Let tourists live in the buildings of ancient Huizhou, taste different Huizhou cuisine, experience the authentic scenery of ancient Huizhou, and engage in immersive tourism. In addition, it is also necessary to establish new publicity concepts, and use the Internet and other platforms, such as the establishment of WeChat official account, TikTok official account and other videos to publicize the ancient Huizhou architecture and vigorously promote the traditional culture of the ancient Huizhou. Combining the characteristics of the Internet era, integrating the cultural heritage of Huizhou ancient architecture into commodities, and developing surrounding products can not only improve economic benefits, but also promote Huizhou ancient architecture, attract more young people, and enhance the audience's personnel.

3.6. Strengthen the Use of Virtual Reality Technology

Virtual reality technology, as a new popular trend, is widely used in games, tourism and other projects. It can bring people a real experience, with strong interactivity, and can be applied to the display of Huizhou ancient buildings using body reality technology. First, establish a data model on the client, and then immerse yourself through a wireless helmet. Visitors can experience the style and features of ancient buildings in detail through helmets, and quickly experience the changes of time and space online, bringing new experiences. Through the experience of virtual reality, one can not only feel the style of history, but also accept the influence of culture, and engage in direct interaction and communication in virtual reality scenes. You can instantly understand architecture.

4. Epilogue

Protecting Huizhou ancient architecture can also leave a better memory for the people, better meet the growing spiritual needs of the people, not only appreciate the beautiful style of Huizhou ancient architecture, but also experience different humanities and emotions from it. It is still a respect for history, a material and spiritual wealth left to future generations of people. In the end, my fund form Anhui Provincial Undergraduate Innovation and Entrepreneurship Training Program (S202210378161), thank it for my financial support.

References

[1] [Exploring the protection and utilization of ancient buildings from Anhui style ancient buildings Fang Ye (China Huizhou Culture Museum, Mount Huangshan, Anhui 245000)].

[2] Jiang Dongkai, Zhou Zhanxue. The Application Status of BIM Technology in the Protection of Ancient Buildings [J]. Journal of Hebei Institute of Architecture and Engineering, 2016, 34 (1): 31-35.

[3] Li Chengbei, Zhang Yong. Research on the Application of BIM Technology in the Protection and Repair of Huizhou Ancient Buildings [J]. Sichuan Building Materials, 2022,48 (09): 46-48.

[4] Li Chengbei, Zhang Yong. Research on the Application of BIM Technology in the Protection and Repair of Huizhou Ancient Buildings [J]. Sichuan Building Materials, 2022,48 (09): 46-48.

[5] Wang Yinghua, Su Yongling. Research on the Application of BIM Technology in the Protection of Ancient Buildings [J]. Journal of Shenyang Jianzhu University (Social Science Edition), 2019,21 (06): 610-615.

[6] Liang Yi, Wang Chongen. Research on the Protection of Damaged Information of the Great Compassion Hall in Chongshan Temple, Taiyuan Based on BIM Technology [J]. Architecture and Culture, 2021 (12): 170-171. DOI: 10. 19875/ j. cnki.jzywh.2021.12.063.

[7] [Lin Zhou. Innovative Ideas for Cultural Audiovisual Programs from the Perspective of Re media: Taking "China in Ancient Villages" as an Example [J]. Southeast Communication, 2023 (05): 133-135. DOI: 10.13556/j.cnki.dncb.cn35-1274/j. 2023. 05. 035.