

# Conservation of Minnan architecture in the new era of urban construction

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**Abstract.** In the new era of city building, In the process of urban construction in the new era, under the influence of various aspects, the culture of southern Fujian as well as cultural relics and ancient buildings have been more or less affected by the impact of the development of modern urbanization. Part of the heritage has shown a tendency to fall into disrepair, and the proper protection and restoration of cultural heritage and ancient buildings in northern Fujian is imminent. This paper analyzes the current situation of the protection of cultural relics and ancient buildings from the introduction of the architecture of southern Fujian and its connotation of culture. To analyze the current situation of the conservation of southern Fujian architecture, and point out its deficiencies to give precise and contemporary suggestions and related conservation strategies, hoping to provide some inspiration to the relevant conservationists.

**Keywords:** Minnan cultural relics and ancient buildings, Cultural implications, Conservation efforts, Urban planning

## 1. Introduction

The generative range of Minnan culture is vast. It is usually recognized as occurring in the southeastern region of China, most notably in the Xiamen, Quanzhou, and Zhangzhou areas. Minnan Culture has a long history, which includes many production and living customs, as well as different religions and festivals. There are well-known activities such as dragon and lion dances, as well as dragon boat races [1].

Cultural relics and ancient buildings as a witness to the thousand-year history of southern Fujian's "living fossil", for evidence of the development and change of Minnan Culture culture provides good evidence. In the new era, the preservation of cultural relics and ancient buildings in the southern Fujian region is of great importance to the inheritance of history and the development of society. It is crucial for the inheritance of history and the development of society.

## 2. Characteristics of Ancient Architecture of Minnan Heritage and Its Cultural Significance

Most of the traditional buildings in Southern Fujian are built with red bricks, which represent the perseverance, calmness, and open-mindedness of the people of Southern Fujian. Typical rural life in feudal China must have included the three elements of home, education, and worship. As early as 100 years ago, the people of southern Fujian skillfully combined these three elements [1]. The living rooms of Minnan buildings are generally brighter and are used to enshrine ancestors and gods, as well as to

meet guests. On both sides of the hall are the east and west big rooms, which are the main living rooms. Large rooms are usually darker, with hanging curtains at the doors and small windows in the roof for light. After the big room, there is the back room, which is the concubine's living room or the storage room for storing personal belongings and boxes and cages. Minnan architecture is a compound architecture derived from the combination of the above-mentioned structures and external spaces.

The roof of traditional Minnan architecture is a particularly distinctive feature. It often curls up on both sides, resembling the tail of a swallow, adding to the overall aesthetic appeal of the architecture. Additionally, most roofs are adorned with carvings of animals, plants, and historical figures, expressing the Minnan people's aspirations for a better life and reverence for their ancestors' moral integrity [2].

Windows play an important role in traditional Minnan architecture. The windows of Minnan buildings are usually exquisitely designed, considering both ventilation and lighting needs, while also emphasizing decorative effects. All motifs in traditional Chinese architecture should express auspiciousness and good fortune. It focuses on the simple desire of the Chinese people to avoid bad luck. The decorative patterns on the windows of red brick buildings in southern Fujian continue this rule and create many decorative arts with local characteristics, including categories such as character stories, plants, animals, and words [3].

### **3. The Existing Issue**

#### *3.1. The Necessity of New Urban Development*

In recent years, benefiting from China's poverty alleviation policies and the implementation of development plans such as the Beautiful Countryside initiative, relevant government departments have improved and enhanced the transportation, water conservancy, and infrastructure conditions of historical Minnan villages [4]. However, such developments can easily damage local buildings. Infrastructure improvements may lead to local soil compression and foundation damage. At the same time, certain areas with concentrated Minnan cultural relics have had modern buildings inserted, disrupting the harmony of historic villages and causing the cultural relics and ancient architectural complex to lose their aesthetic appeal and visual charm.

#### *3.2. Outdated Beliefs of The People*

In the ancient Minnan villages, there are a large number of valuable ancient residential buildings, ancestral halls, temple structures, and wooden bridge structures. The most typical characteristics of these buildings include their age, low fire resistance, high building density, and narrow passageways. To this day, in the southern Minnan region, many residents still observe customs such as ancestor worship, offering sacrifices, and paying respects to deities. Influenced by outdated beliefs and habits, activities like setting off fireworks, burning incense and paper money, and large indoor gatherings can lead to fire and collapse risks for these ancient buildings. These practices hinder the preservation and development of cultural relics and ancient architecture.

#### *3.3. Lack of Effective Protection Measures*

In the coastal areas of Southern Fujian, long-term exposure to moisture can cause damage to buildings. The humid environment may lead to the corrosion of traditional building materials, mould growth on walls, and expansion of moisture-damaged wooden structures. Additionally, due to the lack of advanced techniques for treating materials against decay in the past, and the unconscious use of materials prone to corrosion, some buildings may suffer from corrosion and eventually collapse.

#### *3.4. Lack of Funds for Maintenance*

The Southern Fujian region covers a vast area, encompassing numerous historical buildings worthy of preservation. The extensive area poses challenges to preservation efforts, requiring the government to conduct thorough surveys of buildings through a significant amount of data analysis. This process is extremely time-consuming and resource-intensive, demanding substantial financial support as well. Due

to various factors, the economic development in the Southern Fujian region lags, and the financial departments of its counties and cities lack a strong emphasis on cultural heritage preservation. The related institutions responsible for heritage protection and restoration personnel face a severe shortage of funds for use and allocation.[5] At the same time, in the past, the Chinese government has allocated significant funds to urban infrastructure development and poverty alleviation efforts, which may have led to a perceived lack of emphasis on the preservation of cultural relics. On one hand, it is challenging to sustain the daily expenses for preservation, restoration, and administrative management. On the other hand, it is difficult to introduce more advanced, scientific, and efficient new techniques and equipment for cultural heritage restoration. This situation has made it consistently challenging to carry out stable preservation work for ancient buildings.

## 4. Solutions

### 4.1. *More Precise Urban Planning*

While ensuring the protection and maintenance of ancient buildings, it is also important to pay attention to the modernization development needs in the Minnan region. It is important to enhance the mutual integration between modern architecture and ancient buildings, optimizing the practicality and contemporaneity of ancient buildings while imbuing modern architecture with a richer cultural atmosphere and natural characteristics.

First, renovate and adjust the buildings that need it, while retaining their original characteristics and cultural significance. Internally refurbish them by adding lighting fixtures, renovating and reinforcing them, and making appropriate modifications to certain unsuitable structures. By ensuring the practicality of the building, and enhancing its comfort and utility, we can better showcase the beauty and historical value of the architecture.

The second approach involves using historic architectural complexes as prototypes to construct a modern commercial street. By taking into account the appearance of the historic architectural complexes and the layout planning of the streets, nearby modern buildings can be adjusted to align with the style of the historic architectural complexes. This does not necessarily require complete replication of the historic buildings; modern materials can be appropriately utilized to adjust the historic buildings, such as replacing wooden materials with concrete to enhance the buildings' durability and practicality.

The third approach is to plan urban development reasonably, allowing historic buildings to not only serve as tourist attractions but also to integrate them with commercial activities [6]. A prominent example in China is the proximity of the Giant Wild Goose Pagoda and the Tang Dynasty Theme Park in Xi'an, Shaanxi. After visiting the Giant Wild Goose Pagoda, most tourists choose to shop and engage in commercial activities at the Tang Dynasty Theme Park. This has significantly enhanced the influence and visibility of the historic buildings, expanded economic benefits, and provided more ample funding for urban development and architectural preservation. This model not only promotes the city's development but also revitalizes the historic buildings, achieving an organic integration of cultural heritage and commerce.

### 4.2. *Strengthening Awareness and Education*

At present, there are still some individuals who lack awareness of the protection of cultural relics and ancient buildings, believing that the cultural relics and ancient buildings in the southern Fujian region are not worth studying and inheriting [7]. As a result, they overly focus on a new era of urban transformation and innovation, neglecting the exploration of cultural relics and the inheritance of valuable traditional culture. Therefore, we need to increase the efforts in education and promotion, targeting not only students but also the wider society through activities such as lectures, exhibitions, and more. These will enhance public understanding of Fujian architecture, helping more people to protect cultural relics and ancient buildings in a scientific, rational, and objective manner.

On another note, this also guides workers to combine the architectural characteristics, current status, restoration, and development needs of cultural relics and ancient buildings in northern Fujian. It is

significant to regularly inspect and record ancient buildings, organize the relevant data into documents, and convene special meetings to collectively discuss and formulate the most effective cultural heritage protection plan. This ensures that ancient buildings remain in a healthy state at all times.

#### *4.3. Protecting Historical Buildings with Cooperation*

To effectively protect historic buildings, it is important to define the responsible entities and establish robust management institutions.

On one hand, in the jurisdiction of the Minnan region, at various levels of government in counties and cities, it is essential to establish a collaborative management mechanism for cultural heritage protection involving departments of urban and rural planning, cultural relic preservation, tourism, fire safety, finance, land and resources, human resources, and other relevant departments based on actual development needs. Building a more comprehensive network for the protection of cultural heritage areas and fully leveraging the different functions of various departments is crucial for the routine protection of historic buildings. Developing a more scientific, rigorous, and detailed system of responsibilities for cultural heritage protection, clearly defining the entities responsible for different aspects of heritage protection, and consolidating the documentation of all cultural heritage sites in the Minnan region will facilitate better management.

On the other hand, it is necessary to effectively strengthen the management institutions [8]. This requires consultation among various departments, and regular convening of relevant meetings to discuss how to operate the commercial activities around historic buildings and further protect these structures. Additionally, the establishment of a cultural relic bureau is needed to demonstrate the local government's commitment to Minnan architecture, remind residents to consciously protect the buildings, and ensure the implementation of various cultural heritage protection measures.

#### *4.4. Adhere to Scientifically Effective Management Measures*

In the specific development, preservation, and restoration work of cultural relics and ancient buildings in Southern Fujian, relevant personnel need to adhere to the principles of preserving the integrity and characteristics of ancient buildings, as well as enhancing their preservation and usability [9]. They should employ scientifically effective management measures and conservation methods. Personnel should plan restoration based on information such as the architectural techniques, carving craftsmanship, and cultural significance of the ancient buildings, and strive to use building methods and materials that are closer to those used in ancient times for the restoration of ancient buildings.

#### *4.5. Enhancing the Application of New Technologies in the Protection of Cultural Relics and Ancient Buildings*

The use of traditional building materials for an extended period can lead to issues such as decay and breakage. Coupled with the coastal location of many ancient buildings in the Minnan region, the lack of advanced technologies for moisture and decay prevention has increased the risk of collapse for many of these structures. Leveraging cutting-edge technologies can significantly improve this situation.

For instance, applying Building Information Modeling (BIM) technology to the conservation of cultural relics and ancient buildings can provide a more intuitive data foundation for protection and restoration efforts. By constructing simulation models of cultural relics and ancient buildings, BIM technology offers a more visual representation of the structures [10].

Furthermore, with the aid of modern computer capabilities in data analysis and simulation, along with data on factors such as humidity, climate, tourist traffic, and population density in the vicinity of cultural relics and ancient buildings, a more realistic 3D model can be created to visually present various aspects of the buildings. This approach can enhance decision-making processes and enable more effective preservation and restoration strategies to be implemented, ultimately reducing the risk of collapse and ensuring the longevity of these valuable historical assets. For example, in addressing waterproofing and moisture prevention, we can utilize modern equipment to monitor the humidity data of buildings. This data can be statistically analyzed using computers, and the information can be relayed

to relevant departments. Maintenance personnel can then use more advanced materials to maintain the buildings, reducing the impact of damp environments on the structures.

## 5. Conclusion

Protecting Minnan architecture not only contributes to the inheritance of Minnan culture but also serves as a crucial measure in safeguarding and promoting global cultural diversity. This kind of preservation holds profound significance not only for local communities and cultural heritage but also helps enrich cultural landscapes worldwide, fostering cultural exchange and understanding. Strengthening research on the cultural heritage of ancient buildings in Southern Fujian can effectively explore the cultural conditions and ideological connotations of this region in China. The protection of Southern Fujian architecture is a crucial aspect, requiring the implementation of preservation and restoration efforts for ancient relics. This not only demands thorough research by relevant personnel on ancient buildings but also necessitates support from the public. Additionally, substantial funding is required for these endeavours, which can further stimulate the development of related tourism, generating economic benefits while raising funds for the restoration of ancient buildings. It is essential for relevant personnel and departments to promptly organize various key information to provide efficient and scientifically informed decision-making for the comprehensive development of national efforts in the protection and restoration of ancient buildings.

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