Research Article

Study on Architectural Landscape Cultural Representation and Ecological Wisdom of Zengtou Qiang Village in Lixian County, Sichuan Province

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1. Introduction

The Qiang nationality is one of the ethnic groups with a long history in the big family of the Chinese nations. They mainly live in Maoxian, Wenchuan, Songpan County, Beichuan County, and Li county in Aba Prefecture, Sichuan Province [1]. Throughout the development of human history for thousands of years, architecture is the most concentrated and abundant carrier of civilization achievements such as a nation’s survival wisdom, aesthetic concept, engineering technology, and social ethics. Qiang Villages have rich natural and historical-cultural landscapes, and their residential buildings are typical representatives of national culture, inheriting the cultural genes, ecological wisdom, national regional characteristics, and historical memory of the Chinese nation. They are the precious heritage of the nation and nonrenewable tourism resources. Zengtou village is a traditional village at the national level. Compared with other areas, it has the independence and typicality of the geographical and the cultural unit and has the extremely high aesthetic value and research value.

As the material carrier of Qiang ancient civilization, the architecture of Qiang minority plays an extremely important role in the inheritance and development of Qiang culture. Zengtou Village has the reputation of the ancient Qiang tribe in the clouds. It is the well-preserved Qiang architectural culture and art preserved in the world. It has extremely high aesthetic value and research value. Due to the entry of modern civilization and geological disasters and other reasons, the withering and destruction of local traditional houses have been accelerated. In this paper, a case study is made on the residential buildings of Zengtou Qiang Village in Lixian County, Sichuan Province, with Zengtou Xiazhai, Xiaozhai, Zhongzhai, and Shangzhai as the main investigation objects, and the representative residential buildings of each village are surveyed in detail, including the general situation of the village, the layout of the courtyard, the structure of the residential building, the decoration, the ecology etc.. Based on this, ecological wisdom of the residential building of Qiang is figured out.
ecological elements and other aspects are analyzed, and on this basis, the cultural characteristics and unique ecological value of the residential buildings are sorted out. This study completes the insufficiency of the current related research.

2. Concept Definition

Stuart Hall of Birmingham School in Britain transformed the concept of “Representation,” which originally belonged to philosophical epistemology into a concept of representation that combines structuralist semiotics and cultural studies. “Representation” means to symbolize, represent, exemplify, or substitute and refers to the cultural practice of using symbolic systems such as objects, images, and languages to symbolize or express certain meanings [2].

The theory of cultural representation and its subsequent “cultural turn” make more humanities and social sciences focus more on the process of cultural representation of symbols [3]. Since then, scholars have tried to represent, construct, and understand the world through symbols, language, pictures, texts, etc. [4–6], and the construction and deconstruction of the symbol system have gradually become an important method for academic research on world cognition. The theory of cultural representation has gradually penetrated landscape planning and other disciplines and has developed into a new research theory in landscape research [7], providing an extremely important epistemology and methodology for landscape research [8]. Therefore, based on the landscape research of cultural representation, this paper analyzes and deconstructs the ecological wisdom of Qiang dwellings based on the representation of traditional residential buildings.

As the key identification symbol of the cultural landscape in the Qiang Village, residential architecture is an important part of the human ecological wisdom in the traditional village landscape, which has the properties of non-monon and extension. First of all, as a productive building, it embodies the harmonious and holistic view of natural ecology, a way to survive in a special natural environment and reflects the crystallization of wisdom integrating aesthetics, mechanics, and architecture. Second, as a traditional village cultural heritage, the traditional residential buildings witness the history, culture, and development of living architectural samples of Qiang settlements. It forms the core of the village’s humanistic value, shows the unique regional human landscape, and becomes the carrier of the village’s spiritual style and local culture.

Ecological wisdom is an expression in the context of the era of ecological civilization. The construction of ecological civilization should respect the existing local ecological wisdom and realized the actual role and value of the changes in the ecological, social, and economic development needs of traditional villages. Regarding the elaboration of the concept of “ecological wisdom,” Yang and Tian (2010) [9] reported the correlation between “local wisdom” and “ecological wisdom” as follows: under the natural and social background of a limited area, residents deal with human-land relationship, complex, and ever-changing ecological relationships issues and build a livelihood and ecological wisdom system through generations of accumulation and improvement, which serves a specific ethnic group or regional community. It has the obvious national affiliation and geography and reflects respect and adaptation to the regional resources and environment.

3. Ecological Wisdom of Qiang in Zengtou Village

Zengtou Village is one of the three villages under the jurisdiction of Taoping in Li County. It is a thousand-year-old ancient village in the same era as Jiashan Village on the other side of the river and Taoping Village at the foot of the mountain. It has the reputation of the ancient Qiang tribe in the clouds. In 2016, Zengtou Village was included in the fourth batch of the Chinese traditional village protection list by the Ministry of Housing and Urban-Rural Development. Zengtou Village, in the upper reaches of Minjiang River, is a relatively well-preserved village in the Qiang inhabited area. It is also a well-preserved architectural culture and art of Qiang in the world. Among the four villages, Shazhai is the oldest, its history dates back to before 110 BC. Shangzhai and Zhongzhai used to be full of blockhouses. Due to their long history, coupled with various geological disasters and man-made damage, most of them have been destroyed, leaving only broken walls and ruins, as shown in Figure 1. Because the village is located in a relatively closed mountain, after long-term selection and accumulation, a settlement environment system with a certain historical style has been formed.

3.1. Natural Ecological Landscape. Zengtou Village is divided into several natural villages such as Shangzhai, Zhongzhai, Xiazhai, Xiaozhai, Hebatou, and Kuanba. The terrain is low in the south and high in the north. It forms a unique mountain terraced landscape of traditional mountain villages. Yellow brownstone houses and watchtowers were scattered on the hillside. It formed a unique mountain terraced landscape of traditional mountain villages. The complicated and changeable terrain affects the overall layout of the building and the richness of the architectural form, forming a village-style that is diverse, flexible, and highly free. In the Shibi scripture volume “Ba,” there is a chanting: the Qiang people have built Qionglong since ancient times, built houses in the middle of the mountain, built high mountains and flat dams, and the Qiang people have been wise since ancient times. Here, the distribution of the Qiang dwellings in high mountains, midlevels, and pingba is summarized, and it is also an affirmation of the thought of the residential site selection.

3.2. Regional Human Landscape. The lanes inside the village are paved with stone. Due to the constraints of the geographical environment, the roads are narrow in scales, with large ups and downs, and are mostly zigzag steps. The villagers take advantage of the terrain drop to divert water into the village, and the canals and roads surround the entire village in parallel. Another important part of the road system is the cross-stress building. At the center of the intersection of the roads, there are often crosses and three-way
intersections. The towering surrounding dwellings make this space semi-closed, and a road hub space similar to a patio appears, which could be used for communication between Qiang people in peacetime and has the function of covert defense in wartime. The building across the street is like a "button", linking each household organically so that the whole village presents an integrated architectural layout [10]. The overall space of the village is rich, and the regional characteristics are distinct. The uniqueness and sense of order created by the layout of the entire village are the wisdom of the ecological balance between the artificial environment and the natural environment.

3.3. Architectural and Residential Landscape. The local residential buildings are mainly watchtowers and stone dwellings. The overall layout of the buildings is mostly based on the situation of the mountains. They are distributed along the contour line and are well-proportioned. They are perfectly combined with the natural environment and have distinctive regional characteristics. The building materials are mostly adapted to local conditions and local materials. The outer walls are mainly made of rubble and yellow mud, forming a stone ecological building complex with rich characteristics. The exterior features of residential buildings are simple, most of them have flat roofs and some have watchtowers. The buildings are conical in shape with large bottom and small top, and the wall is thick (about 40 cm). The external wall has small and few windows, the space is closed, and the indoor illumination is poor. The form of the building is rough, closed, and heavy, showing the unique architectural style of the ancient Qiang settlement. The whole village is organically integrated with the natural environment, giving full play to the positive and reasonable influence and role of human beings on nature, which is the embodiment of natural ecological wisdom.

During the construction of the villages in Qiang, the Qiang people found a way to get along with the geographical conditions and the natural environment, creating a material landscape in harmony with nature. At the same time, with the material landscape as the carrier, a human ecology suitable for it is constructed, and a harmonious and unified ecological settlement environment is jointly constructed. It embodies not only the natural ecological wisdom rooted in the native harmony between man and nature but also contains the organic unity with the view of nature, as well as the humanistic ecological wisdom with the content of regional humanistic spirit and cultural value. Natural ecology and human ecology complement each other. Natural ecology is the external landscape representation, and human ecology is the internal dynamic mechanism of the village landscape. The two are not only the wisdom of the harmonious human-land relationship in the traditional village landscape but also the value content of the traditional villages, as shown in Table 1.

4. Cultural Landscape Characteristics of Residential Buildings

4.1. Architectural Construction and Detailing

4.1.1. Door. As the building envelope system, the door is not only the architectural design element that distinguishes indoor and outdoor but also the main part of the building facade [11]. It is a very important identification symbol in the building structure. The door openings of local dwellings are about 1~1.4 m wide and 1.8~2.1 m high. Most of the opening and closing methods are single wooden doors or double wooden doors, and the size of the doors is not large, so whether the cattle can pass through is the main consideration. Qiang houses generally have two doors. During the war, the door is often closed, which plays the role of defense and confusing the enemy. The real entrance and exit are on the other side. This approach is similar to the opening of windows in some watchtowers. The number of window openings on the facade that do not match the floors makes it difficult for the outside world to distinguish the actual space division of the building.

Doors and doorframes are generally made of thick wood, and most of the door heads will be decorated with some details, similar to the hanging flower doors. There are four square pillars or cylinders hanging down from the top, most of which are spheres and polygons, with flower patterns or
auspicious characters carved on them, such as propitious pleasant, good luck, and longevity [12]. The tops of the eaves connecting the vertical columns are usually decorated with a dragon head. In addition, a door hosta is installed on the door head. Most of the styles are flower-shaped, and some only have flower-shaped carvings on the top of the door hairpin. The flower shape is mostly a gesang flower or similar multipetal flowers. Some of the door hostas are painted and colored, and some retain the original wood color, as shown in Figure 2. Some door heads are not decorated too much but are embedded in the wall with simple wooden frames. The local door locks are also very distinctive. The original and simple wooden keys and wooden locks are still preserved. A small square hole is opened on one side of the door, and a door bolt is placed. The simple wooden chips made by the residents can open their doors, but outsiders cannot crack this special combination lock [13]. In addition, the Qiang nationality’s residence pays great attention to the deified decoration of the door. The main entrance and exit doors are posted with door gods, to ward off evil spirits and ensure safety.

According to literature records, the favorite use of hanging flower gates in the Lixian area is mostly due to the influence of Han dwellings. Apart from the door hosta, door gods, and door couplets, there is also the cultural phenomenon of Taishan stone dares beside the door, which is similar to the aesthetics, religion, and customs of the Han nationality. Taishan stone dares, also known as the rescue stone, is a residential talisman in a house to ward off evil spirits, usually standing on the left side of the gate. The photo of Taishan stone dares in Figure 3 is erected in the corner of the wall. The overall scale is not large, only about 40 cm. The whole body is gray and white. The head is carved with a dumbstruck face, and the body of the stele is buried in the stone mound, and only the word “Tai” can be vaguely seen, as shown in Figure 3.

4.1.2. Window. There are several forms of windows in local residential buildings. One of them is named bucket window, with a length and width of about 20~30 cm. Generally, some small window holes are opened on the outer wall of the building. There are no window frames inside and outside. Its characteristics are that the inner mouth is large and the outer mouth is small; the profile is like a bucket, sturdy, and practical, it can protect from wind, rain, and smoke. In order to increase indoor lighting, local dwellings have more windows on the top roof terraces, that is, skylights. It is called “Legu” in the Qiang language. Rising has two meanings, one is that it has the meaning of rising compared to down and lowering because it is located on the roof terrace. Second, “rising” was a container with a wide mouth and a slightly smaller bottom. The two meanings are combined into one, and the image is appropriate. In general, the window opening forms and decorative patterns of Qiang buildings are not as rich and complex as those of Han.

4.1.3. External Wall Decoration. The external walls of the residential buildings in this area are mostly yellowish-brown,
and the main materials are yellow mud and stones. They are flat roofs, but there is no white stone decoration on the roofs. More often, a few white lines are painted with limestone on the edges, corners, and around the roof of the outer wall, or a circle is painted around the window frame, which has both reinforcement and decorative features. The appearance of this form may be related to the lack of white stone materials in the local area, or it was damaged in the early period. However, the local Qiang nationality still has awe of white stone.

There are few decorative elements on the exterior walls of local houses, but a cross pattern (i.e., “+”) embedded in the wall is very common. According to the literature, the cross pattern recessed into the wall is a unique cultural symbol of the Qiang nationality and is called the house number [14]. Generally, it appears symmetrically on the upper part of the back of the wall of the residential building, one on the left and one on the right, and is mostly used to identify the tribal surname. It also reflects the decorative skills of the Qiang artisans and reflects the decorative beauty, practicality, and religious connotation of the building, as shown in Figure 4.

4.2. Spatial Layout of the Courtyard. Zengtou Village is located in a high mountain, and its geographical location has a great impact on the architectural form, layout, structure, and materials of residential buildings, including various ingenious and ingenious structures of the Qiang nationality to adapt to the natural environment. Especially in the layout of the building courtyard, it reflects the unique form and character. The layout of local residential buildings is flexible and changeable, with free and diverse forms. It is not a simple square space, nor is it static or fixed, but is extended and changed. The courtyard interface is rich in changes and the space opens and closes in an orderly manner [15]. The vertical space of buildings is mostly three-layer, and some are as high as five-layer or six-layer. The main functions of the first floor are animal husbandry, dry toilets, and stacking firewood; the second floor is the main room, fire pit, and bedroom; and the third layer is used for storage, food drying, and entertainment. The main spatial distribution is roughly the same, but the spatial combination and division are varied and free, almost different from each other. From the bottom to the top, the wall is divided, the column network of each layer is irregular, and the space changes freely.

4.2.1. Zhou Mansion, Zengtou Xia Village. The two groups of Zhou Mansion in Zengtou Village are located on a high step, and the surrounding courtyards are adjacent to forms a large group. From the exterior of the building, it looks quite old. There are two entrances and exits in the courtyard, and the gate faces the second-layer hall and is the main entrance and exit now. The second gate is in the courtyard on the first layer, which was the main entrance and exit in the past. The layout of the building is not regular on each layer, and both horizontal and vertical spaces reflect a certain degree of randomness, but the main functions are similar to those of most
residential buildings. The first layer is for animal husbandry, dry toilets, and storage of sundries. The second layer is the main living space, with bedrooms, kitchens, and living rooms. The third layer is mainly used for storage, and the fourth layer is a balcony. The house is currently four-layer, six-layer many years ago, to accommodate a large family living together. Later, for safety reasons, two layers were demolished in 1989. The main room on the second layer is still the core area of the entire residence. The elements of the fire pit, shrine, and central pillar are still retained in the space, showing that the main room space still occupies a dominant position in the minds of contemporary Qiang. The second-layer yard was originally another house. After the owner bought it, the roof was removed, one side was turned into a living room, and the other side was turned into four bedrooms. The interior decoration and furniture layout tended to be modern, and the windows were enlarged. The interior looks clean and tidy, and the entire building space has undergone many changes and evolutions in the functional layout along with the change of lifestyle, as shown in Figure 5.

4.2.2. Yu Mansion, Zengtou Xiao Village. Yu Mansion is located at No. 10, Group 2, Zengtou Village. The house has four layers. The main space is divided according to the traditional functional layout of the Qiang nationality. The first layer is for animal husbandry, the second layer is the main room, the third layer is used for storage, and the fourth layer is used for sun drying. The house has also been partially remodeled and extended as the lifestyle has changed. The layout of the whole building is not square, and the structural changes are slightly complicated. The courtyard walls are mainly made of stone and mud. The external walls are irregular and the appearance is simple and old. The courtyard on the first layer is divided into two parts. The sunken space on the left is mainly pig pens, toilets, bathrooms, and storage rooms, and two bedrooms (the original sheepfold) on the right side, as shown in Figure 6. The bathroom with a small space area was rebuilt in the later period, which meets the daily washing function. The storage room is dimly lit and full of farm tools and various sundries, as well as shoumu (i.e., coffins). It is said that the Qiang area attaches great importance to funeral ceremonies. When parents enter their declining years, their children should prepare funeral arrangements for them to show their filial piety.

The second layer is still the core area of the entire building. The spacious living room is equipped with modern furniture such as dining tables and refrigerators. The lighting in the main room is extremely poor, and only two beams of light are projected from the upper bucket window. The fire pit is in the center of the main room, and the gods are enshrined in the corner shrines. The indoor walls were blackened by the smoke rising from the fire pit. The stove next to the fire pit is no longer in use. The newly repaired kitchen stove is clean and tidy, with complete functions such as shelves and lockers. From the roof terrace, you can overlook the entire courtyard. One side of the terrace is a granary. The door of the Qiang granary will be locked, and women and outsiders in the house are not allowed to enter. A skylight was opened on the roof terrace to make up for the lack of indoor lighting. The entire roof has a large area and is mainly used for drying food and clothes, as shown in Figures 7 and 8. The top-level platform of the stone-built house is a continuation of the indoor space. The flat space is added in the uneven mountainous terrain and is an important place in daily life.

4.2.3. Zhou Mansion, Zengtou Zhong Village. Zengtou Zhong Village and Shang Village are mostly watchtower dwellings, which are characterized by the integration of tall watchtowers with the nature of war defense into traditional dwellings of daily life, which embodies the superb architectural wisdom of the Qiang nationality. In the Qiang language, the watchtowers are called “qiaolong.” As early as 2000 years ago, there was a record about the Qiang nationality in the book of the biography of the southeast Yi, Later Han Dynasty, as follows: living by the mountains, building up stones as houses, the tall ones are more than ten feet. Watchtower has different functions according to different locations. There are four types of watchtowers: home watchtower, village watchtower, blocking watchtower, and beacon-fire watchtower. The shapes are in the form of four corners, hexagons, octagonal shapes, etc., and the height is between 20 and 30 m, which is used to defend against enemies and store food. Watchtower is the most distinctive part of Qiang architecture.

Most of the dwellings in Zhong Village are a combination of watchtowers and stone-built dwellings. The whole building is centered on the watchtower, and the left and right are expanded or repaired. The watchtower is closely connected with the house, and the internal space is connected. These watchtowers had a defensive function during the war. Now many of them have been destroyed, and the towering and majestic momentum of the past has gone. The Zhou Mansion in Zengtou Zhong Village is a typical watchtower dwelling. It is located on protruding flat ground between the mountains and valleys. It has a good view, and the scenery below the mountain is within sight.
Figure 5: Layout of the first, second, and third layers of Zengtou Xia Village (unit: mm).
Figure 6: Layout of the first layer of the Yu Mansion in Zengtou Xia village (unit: mm).

Figure 7: Layout of the second layer of Zengtou Xiao Village (unit: mm).
Unfortunately, the towers were severely damaged in the earthquake, and now only three or four layers of broken walls remain.

The whole building is composed of two parts: a watchtower and a stone-built dwelling. The bottom and second layers of the watchtower use natural cliffs as the back wall, which is stable and reliable. At first, the watchtower had 12 layers. After the Wenchuan earthquake, there were only 4 layers left, with a height of about 12 m. The base of the tower is relatively wide, gradually shrinks upward, and the facade is an isosceles trapezoid with a large bottom and a small top, which reduces the self-weight of the upper part of the wall and enhances the stability of the wall foundation. There are two types of watchtower windows, one is a bucket window with a small outside and wide inside, and the other is a larger window with a width of 40~50 cm and a height of 60 cm. The window frames are embedded in the stone cracks of the external wall with wooden strips. The sheep’s head on the windowsill shows the mystery of religion. Some wall holes and a few long heads were left on the walls of the

Figure 8: Layout of the third layer of Zengtou Xiao Village (unit: mm).

Figure 9: Overview of watchtower ruins.
towers. It is said that during the construction of the watchtower, when the walls are built to an appropriate height, long wood must be embedded in the wall, and the two ends of the long wood are embedded in the wall, which is very stable. This approach allows the tower to continue to extend to high places without tower cranes, and facilitates subsequent layering, which also plays a role in connecting and fixing, as shown in Figure 9.

**Figure 10:** Layout of the first, second, and third layers of Zengtou Zhong Village (unit: mm).
The main body of the building has three layers. The first layer is mainly for animal husbandry and storage; the second layer is the bedroom, living room, and kitchen; and the third layer is for stacking sundries and drying the buds. The overall layout of the courtyard is square, with the watchtower in the center of the building, and the stone houses are arranged around the watchtower. The entire residential building has undergone major reconstruction and repairs after the Wenchuan earthquake, and many adjustments have been made to the use of space. From the outside, the building is a stone wall, but the decoration of the internal space has been very modern. It is worth noting that the status of the main room on the second layer has been greatly weakened. The room next to the watchtower is placed with a shrine, but there is no fire pit. The newly renovated kitchen gradually replaced the earthen stove, and the layout of the living room is full of modernity. As shown in Figure 10, with the improvement of living standards and the development of tourism, some things that represent the characteristics of the Qiang nationality are being replaced by modern civilization, and it is not uncommon for buildings to be renovated and expanded.

5. Ecological Wisdom Embodied in the Residential Buildings

According to the objective natural environment and climate conditions, Qiang residential buildings form a harmonious symbiosis between architecture and nature and have the sustainable construction principles of practical, sturdiness, beauty economy, simplicity, and ecology.

5.1. Ecological Wisdom in Dealing with Climatic Conditions. Zengtou village is located in the north of Zagunao River, with an altitude of about 2400 m, and it belongs to high mountain Qiang Village. It is windy all year round, the temperature difference between day and night is large, and the winter is long. The thick walls and small windows of residential buildings are also a reflection of adapting to the natural environment. The stone wall made of loess is renewable and degradable. The heat transfer and heat loss of the outer wall are small, and relative thermal comfort can be achieved by using fewer auxiliary heat sources. The research shows that the raw soil wall has a regulating effect on indoor air humidity. When the indoor air humidity is high, it can absorb part of the moisture. When the indoor air is dry, the wall body will release the water stored in it to the room to keep the indoor humidity in a constant state. The small windows on the exterior wall can reduce the heat loss of inside heat. The funnel-shaped windows can ensure the quality of light, prevent the invasion of cold wind and also provide shading in summer.

5.2. Ecological Wisdom in the Use of Building Materials. Due to the constraints of economic conditions, production technology and transport methods, building materials are sourced locally as much as possible. The houses are built using the local stone and soil with strong cohesion. In addition, similar to stone and earth, wood is also a commonly used building material, reflecting the simplicity of ecological thinking. It is worth noting that with the improvement of living standards, residents still use traditional wooden ladders to go up and down, and there is a single wooden ladder that is also a powerful reflection of local materials. The single wooden ladder is made of rough wood about 40 cm in width, which is cut in half from the middle. The part of the pedal is chamfered at an angle, and the size is only enough for half a foot. The single wooden ladder has no handrails and has a large inclination angle with the ground. Generally, it is necessary to go up and down sideways. It is very difficult for ordinary people to go up and down, but it has been used until now, as shown in Figure 11.

5.3. The Ecological Wisdom of the Harmonious Coexistence of the Earth and the House. Zengtou Village is located on a high mountain, with few flat dams, cultivated land, and pastures are distributed on steep slopes, and construction land conditions are very limited. To protect productive land, the flat land is mostly used for agricultural cultivation, and the houses are mostly built on hillsides and rocks that cannot be used for farming and animal husbandry. In this way, it not only solves the housing problems but also meets the needs of daily life and reflects the full respect for nature and the integration of the ecological environment. The residential buildings are built along the hillside, the orientation of the buildings is the same, which saves cultivated land and reduces the excavation, and the use of the multilevel
courtyard and naturally formed multiple roofs enriches the functions and space of the building [16].

To sum up, under the influence of climate and social environment, to adapt to nature and create a good living environment, the Qiang people have accumulated construction modes with local characteristics in the practice of residential buildings. It reflects the accumulation of people’s thoughts and experiences in creating a living environment according to the law of natural.

6. Conclusion

The traditional dwellings of the Qiang nationality embody unique construction skills in site selection, materials, and architectural structure, which not only meet the needs of livelihood, defense, and life but also have rich cultural connotations such as spiritual worship, ideological inheritance, and ethical order, forming a unique regional traditional style. It is the high wisdom of the Qiang people in the process of long-term adaptation to natural ecology and cultural ecology, as well as the living fossil of the spread and evolution of national culture.

In the process of regional economic development and urbanization, important changes have taken place in the economic and social environment of traditional villages, and many characteristic villages have gradually abandoned their forms formed over thousands of years and developed disorderly. It is manifested in various aspects such as construction system, functional space, material replacement, and cultural development. At present, the reconstruction and expansion of traditional dwellings in Zengtou Qiang Village are common, and the characteristic buildings are seriously damaged, many of which are abandoned, especially in the ancient Shangzhai and Zhongzhai, where all of the watchtowers have been destroyed and only scattered and isolated ruins left. As the carrier of culture, the damage and disappearance of ancient buildings will undoubtedly have a far-reaching impact on culture. It is hoped that through the study of ecological wisdom of traditional dwellings in Zengtou Village, the academic perspective of traditional villages in ethnic areas will be expanded, which will provide an important theoretical basis for rural revitalization and settlement inheritance and activation. It provides relevant ideas for the construction of regional green building construction mode and technical system based on cultural inheritance.

The development of modern Qiang dwellings is related to many deep-seated social problems, such as social and economic development, ecological protection, cultural revitalization of ethnic minorities, and stability of ethnic areas. With the advancement of research work, how to promote the ecological and regional development of residential buildings in Qiang areas, improve the adaptability of living, the scientific nature of construction and the sustainability of cultural development are the focus of future research. In the future, machine learning and big data analytics can be used to analyze the residential buildings for enhancing the quality of the structure. [17]

Data Availability

Data Availability. The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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