

Everyday Spatial Practices in Tibetan Houses: A Study of the Spatial Production of Gyalrong Tibetan Vernacular Houses in Western Sichuan

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Abstract: The Gyalrong Tibetan is considered to be a distinctive ethnic, located between the Sichuan Basin and the Tibet (Dbus Gtsang) region in China. The vernacular houses of the Gyalrong Tibetans are known for their stone masonry architectural features. Their adaptation has been a significant factor in maintaining a vibrant cultural heritage while preserving traditional architectural forms. This study analyses the changes in the vernacular houses of a typical Gyalrong Tibetan village over the past 40 years, from the perspective of everyday life practices, to investigate the vitality and sustainable renewal of its traditional forms. The findings indicate that the contemporary evolution of the Gyalrong vernacular houses involves preserving traditional social and cultural practices while implementing innovative spatial strategies. These strategies, which include incorporating new materials, adapting functional spaces, and reorganizing production methods, contribute to a rich and dynamic balance between tradition and modernity. The resilience of Gyalrong vernacular houses is rooted in the inhabitants' steadfastness and ability to adapt to evolving daily realities. This factor will be pivotal in reconciling the tension between preserving historical and cultural legacies and the imperatives of modernity within China's rural revitalization framework.

Keywords: Spatial Production, Vernacular House, Everyday Life Practices, Gyalrong Tibetans.

1. INTRODUCTION

In today's Vernacular houses are buildings of the folk tradition, which is the culture of the majority and their life (Rapoport, 1969) able resources, and are a result of long-term modification and adaptation (Oliver, 2007). Moreover, it represents a living space entwined with the social and cultural fabric of a specific region and nationality, shaped by the general populace's ongoing construction processes and everyday living practices (Carsten, 2018). Vernacular house is a shared research interest of some disciplines recently, such as anthropology, architecture, and archaeology (Carsten & Hugh-Jones, 1995; Gillespie, 2000; González-Ruibal, 2006). This interdisciplinary approach, which studies the material structure, spatial layout, evolutionary process, and construction system of vernacular dwellings, is a primary research approach for identifying, preserving, and perpetuating regional traditional culture (Ju et al., 2012; Thubthun & Tansuwanrat, 2024). Scholars have increasingly focused on the practical role of vernacular houses in shaping social groups and individual cognition as the everyday living spaces of their inhabitants (Li & Li, 2024). Based on Claude Lévi-Strauss's theory of house society (Lévi-Strauss & Willis, 1987), Pierre Bourdieu's structuralist analysis of the dwellings in Berber, Algeria. Bourdieu posits a fundamental relationship between dwelling space and individual practice. According to his analysis, when a person enters a well-organized built environment, their body perceives its inner order. It develops practical knowledge of the cultural framework through habits and residential behavior. By studying urban life, Henri Lefebvre expanded the exploration of spatial practices from material space to everyday life. He argued that everyday life is not only the world in which individuals live but also the space where subjects of power exist and exert control (Lefebvre, 2014). In Lefebvre's spatial triad, daily life involves Representation of Space that is mediated by the Representational Space, which is directly experienced and lived. This transforms into concrete Spatial Practice, subsequently impacting the user's cognition and life as a built environment. Therefore, the representation of everyday life can create distinct spaces through spatial practices. Based on Bourdieu's and Lefebvre's theoretical analysis of daily life, vernacular house represents the spatial embodiment of a specific region and national culture and the key role of rural family production and life (Gillespie, 2000; Tringham, 2000). In traditional Chinese rural society, vernacular houses are closely tied to the local climate, materials, social structure, and customs. As a result, these dwellings exhibit a unified form that reflects the cultural and structural influences shaping

daily life. However, vernacular houses are constantly evolving. In the daily use and upkeep of the houses, villagers have creatively shaped the living space to meet changing needs. This demonstrates the user's influence on daily life space and turns it into a tangible spatial practice through the organization, flexible use of internal space, material substitution, and furniture arrangement. These innovative "spatial practice strategies" have shaped a grassroots spatial production approach within the framework established by traditional regional culture and construction methods. In the era of rapid modernisation, many villages have quickly undergone a fast development process driven by powerful external forces. Using new materials and techniques has become an unavoidable trend in historical development. Additionally, introducing infrastructures more suitable for modern life, such as flush toilets and modular cupboards, has gradually improved the primary conditions of Chinese village life. However, the spatial design prioritising function, often conceived by modernised life from the outside, does not always fully meet the needs of daily life in the countryside. Instead, it can easily lead to the deconstruction and destruction of the spatial production paths shaped by the villagers in their daily lives. Therefore, the tension between historical heritage protection and modernisation has been a significant focus in the academic realm when preserving and updating Chinese vernacular dwellings. The existing studies on the Gyalrong Tibetan vernacular dwellings mainly focus on two aspects. One aspect is to explore the social qualities of the Gyalrong Tibetan house from the perspective of house name and kinship, land system, and social life, which emphasise the inheritance relationship between the house and its attached properties. The other aspect is exploring hierarchical relationships within the house space, reflecting the traditional spatial order and cultural significance. Some scholars have observed changes in the traditional Gyalrong Tibetan vernacular dwelling due to shifts in villagers' livelihoods and lifestyles, the construction of new rural areas, and the growth of rural tourism. These changes include dividing sacred space, replacing the fire pit room with a living room, and subdivision into kitchens and bedrooms. Most regional cases were analysed typologically to compare the changes in old and new family houses. In the framework of "spatial practice," there has been a notable absence of scholarly investigation into how Gyalrong vernacular dwellings exemplify the modernisation of traditional Tibetan residences. This deficiency extends to an inadequate exploration of how these dwellings influence household space, individual livelihoods, and daily routines. This oversight has regrettably obscured the proactive measures and practical strategies villagers employ in their daily

lives in modernising traditional Tibetan houses typified by Gyalrong vernacular dwellings. The research is grounded in the theoretical framework of everyday life and focuses on analysing the modernisation of traditional Gyalrong vernacular dwellings in Galan village over the last four decades. The primary emphasis lies in examining the renewal process and spatial practice, with the overarching goal of exploring the modernisation and production of vernacular life among Galan villagers. The study seeks to comprehend the creative production of architectural space while preserving the traditional vernacular dwelling space and cultural significance through daily life practices. It endeavours to outline a set of everyday spatial practice strategies developed by the inhabitants of vernacular dwellings, aiming to offer insights and inspiration for the adaptive renewal and construction practices of vernacular houses in ethnic areas, particularly among the Tibetan communities in western Sichuan.

2. RESEARCH CASES AND METHODOLOGY

2.1 Overview of Galan Village

The research focuses on Galan Village in Dangba Town, Barkam City, in western Sichuan. In 2017, Galan Village was listed as one of the fourth batch of traditional Chinese villages. It is located in the southern part of the alpine plateau at an altitude of 3,000 meters, surrounded by mountains, with trees planted all over the place. The Panlong River, which originates from Ermao Mountain, passes through the village from east to west and eventually joins the Jinchuan River under the mountain. The village still retains the Dangba Tusi (which means government-appointed hereditary tribal headman in the Yuan, Ming and Qing dynasties) official fortress watchtower, Qingkhorun Temple, White Pagoda, Weisangtai (a kind of offering stove), and vernacular dwellings, along with other historical and cultural heritages of the Gyalrong Tibetan people. The Galan village covers an area of 15 square kilometers and consists of 4 village groups, 62 families, 223 active villagers, and 57 residential buildings. Most houses are constructed using traditional methods, with only two newly renovated reinforced concrete houses. The traditional houses are made of local stone masonry for the external load-bearing structure and wood splicing beams and columns for the internal support structure, preserving the style of Gyalrong Tibetan vernacular houses. Through in-depth interviews and household surveys, the research team discovered that despite the uniform architectural style of the houses, there is a rich diversity in their internal

spatial organization, walking lines, and residential behaviors due to continuous alterations and renovations over the years. The study aims to explore the source of the traditional style of Galan vernacular dwellings and how villagers can retain this traditional form while adapting to modern life. The core focus is on the villagers' initiative to create a modern life well-suited to the space of the vernacular dwellings.

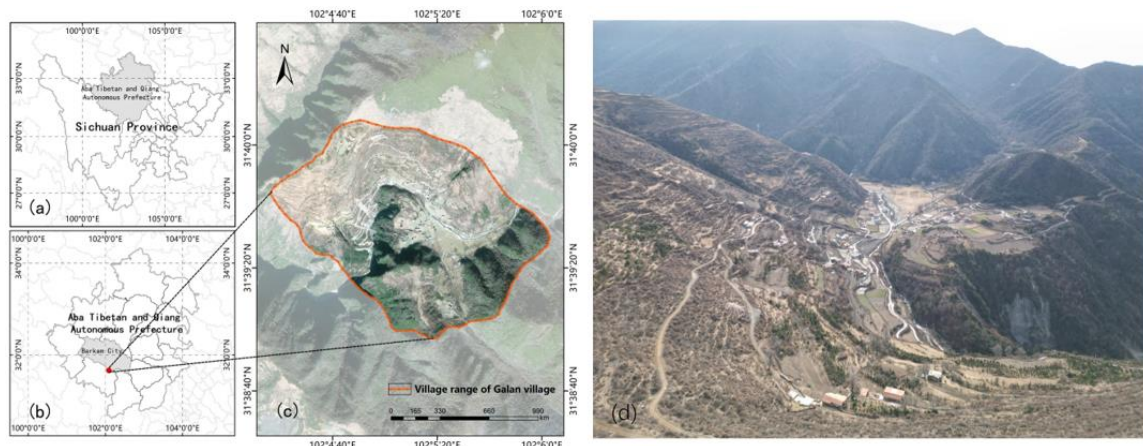


Figure 1: Location, extent and panoramic photographs of Galan village (Figure a shows the location of Aba Tibetan and Chiang Autonomous Prefecture in Sichuan Province, Figure b shows the location of Galan Village in Barkam City and Aba Tibetan and Chiang Autonomous Prefecture, Figure c shows the village area of Galan Village. Figure d shows an aerial panoramic view of Galan Village)

2.2 Research Methodology and Process

The study used qualitative research methods, including non-participant observation, participant observation with household interviews, and architectural methods of field mapping and graphical analysis. The study conducted a 3-day pre-study of Galan village from February 14-17, 2023, and another 16-day field survey from August 13-29, 2023. Contact was maintained with the interviewees through phone calls, text messages, and WeChat before and after the fieldwork in case there were problems with insufficient or missing materials. During the initial pre-study of the case site, non-participatory observation was predominantly used. This involved recording the village's topography, the layout of the houses and fields, as well as the production and living styles of the inhabitants to gain an overview of the case site. We created a map of the village layout in Galan and studied the distribution of 57 houses. We conducted surveys and in-depth interviews with the residents of 29 houses and also took photographs to document the interiors. Unfortunately, we could not gather information from the remaining 28 buildings as no one was home during the survey.

Table 1(a): Basic Information Table for Representative Watchtower Dwellings in Galan Village

	House Name	Village	Building Number Of Storeys	Space At Bottom	Function	Space Middle	Function	At Top	Space	Function	At	Year Construction Started	Residential Renewal Stage
GL 01	Shashibai (old house)	Gezinie Village	four-story	Animal yard + stair well		Fire pit room+Storage room+ Stairwell		Scriptures space+ Flat roof+Pit toilte				Before 1950s	period 1: period of Stabilization
GL 02	Miruoya	Meijue Village	three-story	Animal yard		Living room +Kitchen+Storage room+Stairwell		Scriptures space+Bedroom+ Sunroom + Pit toilte				Around 1988	Period II : period Of extensive renovation
GL 03	Shalibu	Gezinie Village	three-story	Animal yard		Fire pit room+Storage room+ Stairwell		Scriptures space+Bedroom+ Sunroom+Pit toilte				mid -1990s	
GL 04	Kaerpa	Budong Village	three-story	Animal yard+ Storage room+ Stairwel		Living room+Kitchen+Storage room+Stairwell		Scriptures space+ Bedroom + Flat roof+Pit toilte				Around 1988	
GL 05	Shashibai (new house)	Gezinie Village	three-story	Animal yard		Living room +Kitchen+ Bedroom+Sunroom+Storage room+Stairwell+Flush toilet		Scriptures space+Bedroom+ Flat roof+Pit toilte				1988	
GL 06	Natou	Digu	three-story	Animal yard+ Storage room+ Stairwel + Flush toilet		Living room+Kitchen+Storage room+Stairwell		Scriptures space+Bedroom+ Sunroom+ Pit toilte				Post-2008	Period III: period of minor renovations
GL 07	Mularibu	Baerbabu Village	three-story	Animal yard		Living room *Kitchen+ Bedroom+Sunroom+Storage room+Stairwell		Scriptures space+ Bedroom+Sunroom +Pit toilte+Flush toilet				Post-2008	

Table 1(b): Basic Information Table for Representative Watchtower Dwellings in Galan Village

	House Name	Village	Building Number Of Storeys	Space Bottom	Function	At	Space At Middle	Function	Space At Top	Function	Year Construction Started	Residential Renewal Stage
GL 08	Xinkebu	Nengdi	three-story	Animal yard			Kitchen Bedroom Storage room+Stairwell+Flush toilet	+ +	Living room+ Bedroom		Around 2010	
GL 09	Alaqibu	Baerbabu Village	four-story	Animal yard			Fire room+Storage room+ Stairwell(old); Living room+Bedroom+ Storage room(Addition)	pit	Scriptures space+Bedroom+ Flat roof+Pit toilet		Before 1950s	Period IV: period of Addition
GL 10	Baiwan	Digu Village	three-story	Animal yard			Living room+Kitchen+Storage room+Stairwell(Old); Living room+Bedroom+ Kitchen(Addition)		Scriptures space+Bedroom+ Flat roof+Pit toilet		Before 1950s	

The participant observation method was utilised in the second phase of the research. Researchers lived in the villagers' homes to immerse themselves in their daily lives. 10 representative vernacular houses were selected for in-depth architectural mapping based on the construction time of the 57 vernacular houses and the living conditions of the owners (see Table 1, Fig. 2). In addition, statistical data from the Dangba Township Economic Development Statistical Yearbook and the Traditional Village Conservation Plan of Galan Village were used as supplementary and supporting materials to study the policy context of the development evolution of Galan Village.

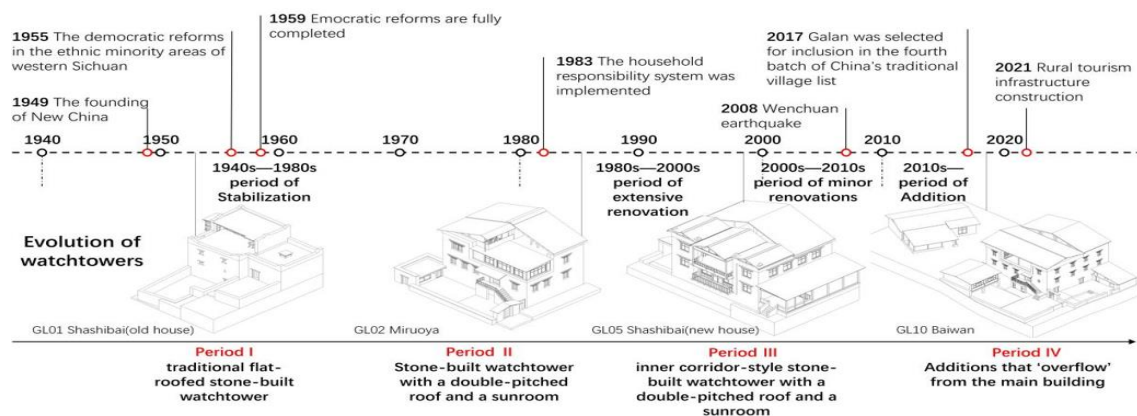


Figure 2: Schematic Diagram of the Evolution of Galan Diao Houses

3. RENEWAL PROCESS OF THE GALAN VERNACULAR HOUSES

The vernacular houses serve as a material representation of the social space and behavior of the family unit, and are often linked to particular social and economic changes. By examining the evolution of vernacular houses in the village of Galan over the centuries, it becomes evident that its history can be divided into four main periods (see Fig. 2).

3.1 Period I : The Period of Stabilization (before the 1980s)

Before 1953, Galan was the seat of the official fortress of the Dangba Tusi, one of the eighteen Gyalrong Tibetan Tusi in the mountainous region of western Sichuan province. It was situated around the official fortress on the hilltop and the valley of the Panlong River, with a few to dozens of houses composed of several small cottages. In 1949, after the country's founding, a small number of people in the region underwent a period of democratic reforms. As a result, the Gyalrong Tusi jurisdiction changed to the township, Galan became one of the administrative villages, and after the division of the 2 teams and 4 production squads, it became the later villager's group. House names and traditional stone masonry dwellings were prevalent during the Tusi period. Even after the democratic reform period, many of these structures continued to be utilized. This paper focuses on the initial generation of traditional homes, predominantly three- or four-story stone masonry wooden structures with flat roofs. The ground floor served as a livestock yard, and the middle layer contained the family's daily food and interaction space, with the main area for transportation and living. In contrast, the top floor housed a half-story scriptures room and an externally located pit toilet. Notably, the earliest houses in the village,

such as GLO1 and the old house part of GL09, were constructed by this architectural form.

3.2 Period II: The Period of Extensive Renovation (1980s-1990s)

After the reform and opening up of the country in 1978, implementing the 'production to household' policy granted farmers the freedom to manage their land. In 1983, the village of Galan embraced this policy, leading to a significant improvement in the economic conditions of the villagers. The children of the first generation of democratic reforms grew up to be the owners of their houses, and began to actively rebuild or refurbish their houses, a clear sign of the economic prosperity brought about by the reforms. The survey revealed that most of the houses in the village were reconstructed or renovated after 1983. The houses rebuilt during this time represent the second generation of vernacular houses, and the architectural structure remained unchanged, with the main modification being the division of the internal two-story space. The traditional fire pit room, previously used for dining and socializing, was separated into two distinct spaces: the kitchen and the living room. Additionally, a two-pitch roof, covered with stone chips on wooden trusses, was added to the top sutra room to serve as storage and to prevent roof leakage.

3.3 Period III: The Period of Minor Renovation (early 21st Century to 21st Century Decade)

In the 1980s and 1990s, significant renovation and reconstruction took place in Galan village. By 2000, only a small number of families systematically reconstructed their houses. These families comprise young people who went to Barkam City for work or business. The improved economic conditions of these families facilitated the renovation process of their houses during this period. There were also changes in the traditional design, such as introducing a new inner corridor space layout. This layout includes a corridor connecting various functional spaces on both sides, such as the living room, bedrooms, kitchen, and other functions. These houses represent the third generation of vernacular houses. Other families have renovated traditional houses to make environmental improvements to the functional rooms. They mainly added one or two rooms next to the upper scripture room and enclosed the balcony to create a sunroom with aluminium windows. Alternatively, they replaced the roof tiles with red-colored mechanized tiles

3.4 Period IV: The Period of Addition (21st Century Decade to Present)

After the Wenchuan earthquake in 2008, post-disaster reconstruction policies were implemented in Sichuan. Many villages renovated or rebuilt their residential areas as part of this effort. Most third-generation vernacular houses adopted an inner corridor space layout. Additionally, flush toilets started appearing in the houses during this period, and dry latrines were being replaced by flush toilets for family use in Galan. Many households constructed "overflow" outbuildings or added roof extensions to their main buildings to meet their housing and production needs. Some also improved their courtyards by using cement and added single-story brick houses for housing or storing production equipment. In 2017, Galan Village was selected as one of the fourth batch of Chinese traditional villages on the list. The state provided special funds and policies for cultural heritage protection and drew up a traditional village protection plan, striking a delicate balance between tourism development and cultural preservation. The rise of tourism has also affected the production and lifestyle of residents to a certain extent. Since 2020, two new-style brick houses and five centrally developed B&Bs (bed and breakfast) have been successively built in the river valley area of the village, all while maintaining the village's authentic charm.

4. EVERYDAY SPATIAL PRACTICES IN THE GALAN VERNACULAR HOUSES

According to the analysis of the renewal process of Galan vernacular houses, it is evident that since the 1980s, there has been continuous construction of these dwellings, both big and small. Despite this, most of the houses still maintain the vertical spatial order of "co-living-human living space-spirituality" from the bottom up and the overall architectural style of stone-built houses. This is closely tied to the social order, spiritual beliefs, and construction system represented by the family house in the traditional Gyalrong society.

4.1 Cultural Habitus of the Gyalrong Family House

First, in Gyalrong Tibetan society, the villagers' connection to the community is facilitated through their traditional stone-built houses, the name of the house, and the land and labour tied to these dwellings. Possession of a traditional stone-built house holds significant social implications, and preserving these structures is imperative for perpetuating

this social identity. Consequently, the ongoing maintenance and restoration of these houses have evolved into a cultural habitus, symbolizing the familial ties within the village and serving as a conduit for the intergenerational transmission of Gyalrong culture. Secondly, in Gyalrong vernacular houses, the vertical layout reflects the influence of religion, particularly the Buddhist theory of the three boundaries. The upper and lower levels represent the division between humanity and the divine. The everyday secular space is subordinate to the sacred space, shaping a vertical spatial order based on the logic of “production-life-belief”. The arrangement of seating and furniture around the fire pit, based on gender and age, reflects a centripetal structure. For example, the vernacular houses of the Shashibai family (GL01 in Tab 1) in Galan village consist of four floors (Fig 3). The ground floor is a co-living space which has a separate entrance for livestock and fodder storage, an outdoor animal yard and a room for agricultural implements. The human living space is on the second floor, containing family living and socializing spaces with two fire pit rooms, with much detailed construction than co-living level. The top floor is the spirituality space, provides place for pray room and open space for the family, while serves as a flat-roofed sundeck with a scriptures space and a pit toilet hanging outside. This vertical spatial order has been preserved in the remodeling or reconstruction of vernacular houses, even into the 1980s and beyond 2000.

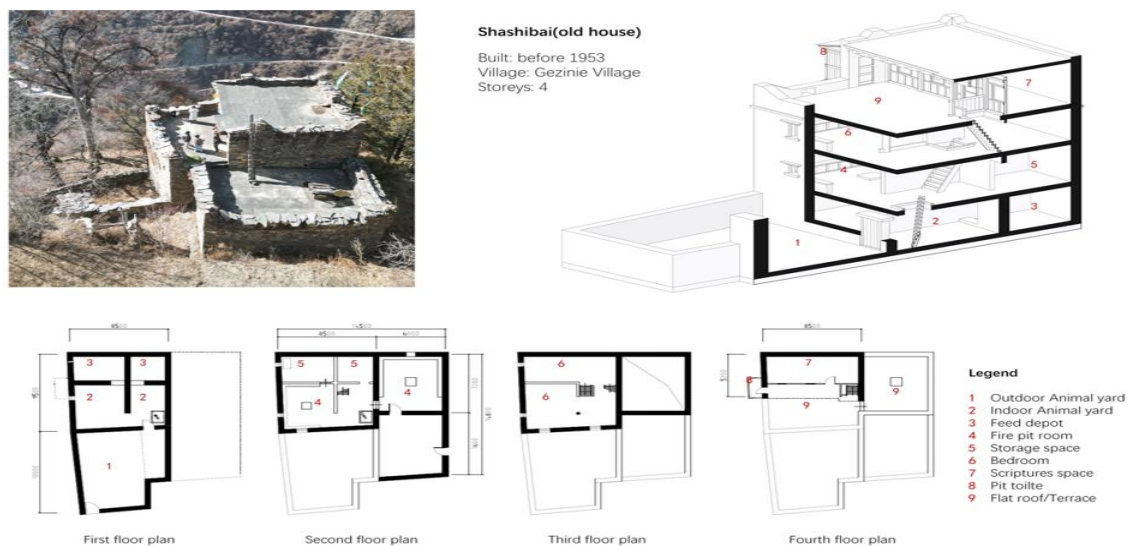


Figure 3: Current Photos, Cross-Section Perspective and Floor Plan of the Old Sha Shi Bai Family House (GL01)

Thirdly, the technology sharing of the local construction system also serves as the foundation for preserving the architectural style of Galan vernacular houses. The research found that local masons and carpenters

constructed these traditional houses for generations. The construction process often involves the participation of most male laborers in the village. Through collaborative construction efforts, young men in the village gain fundamental skills in building scale, material selection, masonry methods, and other essential skills necessary for constructing a vernacular house. Additionally, they learn about the taboos and rules involved in construction rituals. This approach helps to minimize the cost of building houses for each family and fosters the construction of family homes as a crucial element in the village's social cohesion. In brief, the Galan vernacular house symbolizes family identity and social connections, deeply entrenched in the cultural legacy handed down over generations. Its external stone and inner wooden construction symbolize a vertical division of the layout, signifying lasting stability built on shared principles. This architectural design is a direct response to the local social order

4.2 Adaptive Spatial Strategies for Modern Living

The Galan vernacular house is also where villagers' families conduct their lives. Based on the intergenerational transmission of cultural habitus, Galan villagers still carry out family daily life practices through ingenious and diverse adaptive spatial strategies to gradually modernize the traditional house space.

4.2.1 Embedding of New Materials

The majority of the 50 houses in Galan Village have double-sloped roofs with steel or wooden frames added on top of the flat roof. They also feature a sunroom surrounded by stainless steel window frames and glass on the top terrace, which differs from the traditional flat roof design in older houses. This conventional design uses a mix of yellow mud on mille-feuille wooden beams, soil, and grassroots as the roofing layer. Interviews indicate that this transformation began in the late 20th century, with color steel tiles and stainless-steel windows becoming popular materials for villagers to remodel their roofs, terraces, and living rooms in the 1990s. These materials were chosen for their lighter weight, cold and frost resistance, and flexible and easy-to-install lighting surface advantages. In the update of the second and third generation Gyalrong vernacular houses, new materials such as color steel tiles and aluminum alloy doors and windows were introduced without conflicting with the traditional stone and wood construction system used in traditional houses. While the new materials were mainly used to expand the living room window area, seal the roof

terrace, and construct a double-slope roof to block winter snow and increase indoor activity and storage space, traditional materials still dominate the facade form. This maintains the consistency of the vernacular house style (Fig. 4-1, 4-2).

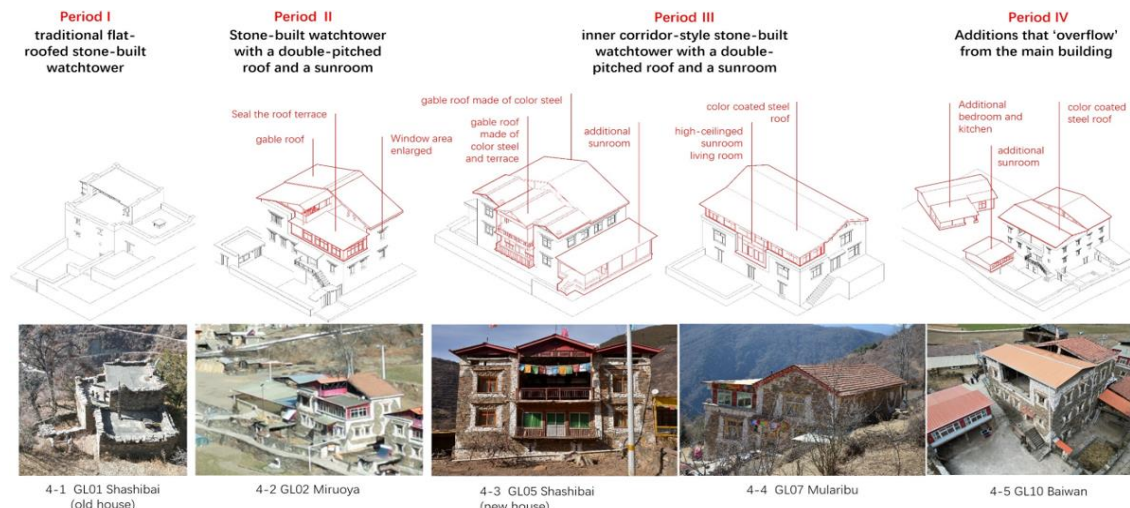


Figure 4: Schematic Diagram of the Embedding Methods of New Materials in Galan Diao Houses at Different Times

However, in the process of updating the third and fourth generations of the Galan vernacular house, there has been an increase in the proportion of aluminum alloy doors and windows on the building facade. This has resulted in significant changes to the appearance of the vernacular house. Specifically, two types of changes are observed: first, the addition of independent or attached glass sunrooms to the original stone masonry buildings to meet the lighting needs of the living room and social attributes. For example, the Shashibai family (GL05) added a sunroom to the east side of the main structure of their original building. Second, some families have built new houses directly in the compound, taking advantage of the terrain slope to create separate living rooms in sunrooms. Additionally, some houses have broken the original three-story horizontally arranged facade feature by adding a two-story through-height sunroom living room in the central opening of the south facade. One such example is the Mularibu house (GL07) built after 2008. The above changes to the exterior of the Galan vernacular house represent the villagers' transformation through the use of new materials. This spatial practice is typically rooted in cultural habitus but incorporates new elements. The traditional facade has a greater impact due to the integration of new materials and a new floor plan.

4.2.2 Changes in Functional Space

The layout of a Galan vernacular house is centered around a vertical

pathway on the southeast side of the house. This pathway connects the ground-floor entrance, the second-floor entrance, and the top-floor opening. It also links the middle and top floors to important activity spaces like the fire pit room and the roof terrace. Longitudinal traffic pathways connect the functional spaces on each floor. They are limited by traditional masonry construction techniques, with each side measuring 10 to 15 meters in length, close to a square plan. The house's interior spaces are divided by crisscrossing interior walls, creating a "four-compartment" floor plan. The transportation space (known as *k^hale* in the Tibetan language) and the large spaces for human use, such as the fire pit room (known as *dzaŋm k^hu* in the Tibetan language), occupy a significant area. Each of these spaces has a supporting space - the storage room next to the transportation space is called *zaŋm k^hu* in the Tibetan language, and the storage room or bedroom next to the ample space is called *sərma k^ho* in the Tibetan language. The large spaces on each floor often serve multiple functions, such as the second-floor fire pit room, which serves as a cooking area and a place for family interaction. Additionally, the large open spaces on the third floor often serve as resting areas for multiple family members (Fig. 5). However, as villagers' living standards improve and family dynamics change, the layout of homes has evolved to better serve their needs. This includes functional rooms like living rooms, kitchens with reception areas, bedrooms, and bathrooms, each with distinct purposes, reflecting a more rational internal structure.

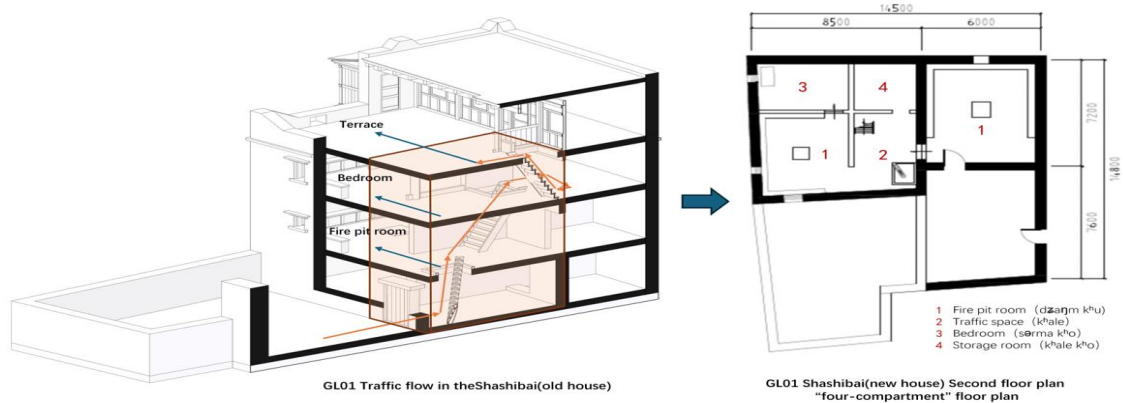


Figure 5: Traffic Flow and Intermediate Floor Plan of a Traditional Galan Diao House

The middle floor variations in the 10 mapped buildings consisted of three primary forms. The first type is a modified "four-compartment" layout with a secondary separation of the aisle space. For example, the second-floor layout of the Miroya house is based on the "four compartments," with the stairwell divided in two by a wooden partition

wall separating the kitchen with a wood-burning stove (Fig.6-1). The traditional fire pit room transforms into a living room with a Tibetan sofa, whose south-facing window opening increases in size and light. The small room to the north of the living room is used for storage, and the room to the north of the stairwell is used as a bedroom. The second type keeps the traditional layout of "four compartments" unchanged and adds or extends the periphery. For example, the Shalibu house retained the traditional design of the fire pit room, stairwell, and two storage rooms on the second floor but expanded the newer living room on the east side of the stairs (Fig. 6-2). The third type changes the pattern of "four compartments" completely, maintaining the east-west masonry partitions based on a corridor connecting the various functions concentrated on the same floor and the evolution of the spatial organization to the inner corridor. For example, the new houses of the Mularibu and Shashibai families have an interior porch style with an east entry. The similarities are that the kitchen is laid out on the south side of the one-entry opening, has better lighting, and is set up with a stove, dining table, and some space for socializing (Fig. 6-3, 6-4). The difference is that the Mularibu house has a two-story, through-height open hall on the second floor, and the interior walls are finished in white ash rather than the wood paneling standard in Galan's houses. Its facade combines steel panels and aluminum windows for better lighting. The daughter of the family's interview also said that in the Mularibu family house, the male head went out to work, according to their favorite style, back to the hometown of independent construction.



Figure 6: Schematic Diagram of the Floor Plan of the Second Floor of Different Types of Galan Diao House

The above can be found in Galan vernacular houses, where the

conventional layout is modified through separation, addition, extension, and re-organization of functions. The main structure remains unchanged, but new spaces are created through corridors, such as front rooms, living rooms, bedrooms, and bathrooms. This reflects the changing intergenerational relationships within families. For example, the middle level often includes a room for elders, while children live in the top-level bedrooms, which now incorporate more elements of daily life rather than being solely "sacred" spaces.

4.2.3 Expansion of the Production Order

In a Galan vernacular house, there are outdoor and indoor animal yards on the ground floor, while the daily living space is located on the second floor and accessed by a single wooden ladder. Research indicates that the majority of villagers in Galan villages have completely separated the ground floor space from the second-floor space, with independent entrances. The main entrance and exit of the vernacular house is typically a door on the second floor facing east. Some vernacular houses are still accessed from the ground floor but have separate entrances for livestock and pedestrians by adding an animal yard. Therefore, in contemporary Gyalrong vernacular houses, the separation of production and living space has become a common trend.



Figure 7: Schematic Diagram of the Extension of the Bai Wan Family (GL10) in the Courtyard

In recent years, the agricultural production of Galan villagers has mainly focused on farming and gathering mountain goods. Traditional animal husbandry has been delegated by the village collective to a few families for centralized grazing in the mountain pastures and is less frequently carried out in the village. As a result, modern tools such as tractors and cars are

required for mechanized farming and the sale of mountain products like cordyceps, matsutake mushrooms, and rhubarb. Although the main body of the vernacular house building is not typically remodeled or renovated, the ground floor compound is often expanded to accommodate supporting facilities like entrance platforms, farm equipment rooms, and parking garages(Fig.7). Many villagers who originally lived in higher altitude walled villages have also moved to the river valley area to build new vernacular houses for better transportation access. These everyday spatial practices reflect the expansion of modern modes of production, with the traditional livestock enclosure on the ground floor being gradually replaced by modern agricultural production and transportation demands. The modes of production centered around the compound space, parking, and farm equipment rooms are becoming increasingly important.

5. CONCLUSION AND DISCUSSION

5.1 Conclusion

Vernacular houses have always been seen as important for understanding traditional social culture, both in terms of the physical structures and the spaces they create. The design and layout of vernacular houses are influenced by specific historical and cultural factors, as well as by the daily lives of the people who inhabit them and the social dynamics at play. In traditional Gyalrong society, the vernacular house represented the physical embodiment of the society itself. These houses hold architectural, social, and symbolic significance, and have been a major focus of research in architectural anthropology. The research above found that the vernacular houses in Galan reflect contemporary spatial practices. These dwellings inherit cultural habitus from traditional family house societies, symbolizing family identity and social relations. Over four generations, the vernacular houses have maintained stability and enduring principles in their construction and layout, representing the order of local social life and cultural heritage. Furthermore, the villagers of Galan have adapted to modernization over the past forty years by incorporating new materials, modifying functional spaces, and adjusting production methods within their dwellings. This demonstrates the continuation and evolution of traditional forms through the lens of modernized production and life.

5.2 Discussion

The changes in Galan's vernacular house over the past forty years reflect

the delicate balance between the cultural habits of traditional Gyalrong houses and the daily spatial practices of the residents in terms of architectural space and form. In 2016, Galan village was listed as the fourth batch of traditional villages in China. With alpine meadows as tourism resources, "cloud Tibetan village" rural tourism has become an important development direction for the future of Galan village. This change in the direction of development made Galan watchtower transition from a slow and smooth, self-renewal state to being driven by a powerful external force due to the rapid growth of the process. In recent years, in addition to the centralized construction by the Tourism Development Corporation, five B&Bs (bed and breakfasts) have been constructed, and a minimal number of villagers have begun to build reinforced concrete B&Bs and farmstays in the meadows to provide catering and residential services. These lodgings do not use the traditional stone-built bunkhouse structure but are more commonly found in rural areas as tiny houses or lodgings characterized by Tibetan style (Fig. 8). There is a disconnect between this construction behavior and the localized, ethnic, and cultural habits and the actual daily life of the villagers. How can we preserve the wisdom of Gyalrong vernacular houses and develop Galan vernacular houses? To help rural revitalization, tourism development should be guided by the input of villagers as the primary stakeholders.



Figure 8: Newly Built Houses in Galan Village in Recent Years

We need to shape tourism in a way that respects local historical context and the real life of vernacular house residents. Currently, market and capital-driven tourism is shaping Galan vernacular houses and impacting villagers' lifestyles. Villagers' control over their daily lives is important for preserving vernacular houses. However, in the face of globalization and commercialization, we should also explore local construction techniques and materials, and utilize spatial strategies developed by villagers over the past forty years to gradually develop local residential spaces.

Image source

Figure 1: Author 4, a and b from review file No. GS(2024)0650

Figures 2–8: Author 1 and author 3

Figure 9: Author 1

Table 1: Author 1, based on field survey data

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