REVITALISING THE YUNNAN TRADITIONAL (VERNACULAR) YIKEYIN DWELLING: A CASE STUDY ON HAIYAN VILLAGE DWELLING DESIGN

By
Mr. Dong JINLUN

A Thesis Submitted in Partial Fulfillment of the Requirements
for Doctor of Philosophy Design Arts (International Program)
Silpakorn University
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Mr.Dong JINLUN

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Mr. Dong JINLUN : Revitalising the Yunnan Traditional (Vernacular) Yikeyin Dwelling: a Case study on Haiyan village Dwelling Design Thesis advisor : Professor Eakachat Joneurairatana, Ph.D.

Contemporary rural self-built housing has broken from traditional paradigms amid rapid modernization; the actual builders are villagers, yet they generally lack tools and methods to translate traditional values into contemporary expression. The decline of “Yikeyin” in central Yunnan is a microcosm of this broader phenomenon, and a bottom-up, field-based co-creation path is urgently needed to explore its contemporary reconstruction.

The aims of this study are: 1) to build a systematic framework for understanding the traditional components of Yikeyin; 2) to identify the parts of Yikeyin that have been lost or weakened in contemporary rural areas; 3) To explore a pathway for the transformation of Yikeyin in contemporary rural dwellings.

The study first establishes a Yikeyin element database through literature review and field investigation, covering entries such as spatial layout, functional distribution, orientation and courtyards, materials and construction, components and ornament; then, through “philosophical mapping,” it aligns these elements with intangible dimensions such as Confucianism, Taoism, and Feng-Shui, extracts operable design rules, and incorporates them into the database; next, through comparative research and with the perspectives of path dependence and complex systems, it explains the mechanisms of loss and weakening of Yikeyin in contemporary construction and the possible repair paths. In practice, the study adopts Participatory Action Research, advances five rounds of co-creation iteration and evaluation in action, and conducts reflection in each round to synthesize research and practice conclusions; on this basis, it proposes the SPIRIT model for the modern transformation of vernacular dwellings, and supplements and verifies the model through two rounds of implementation, thereby testing its operability and potential for dissemination.

The study provides an operable framework and replicable path for the modern transformation of vernacular dwellings, and offers empirical support for community-led rural construction and related policy making.

ACKNOWLEDGEMENTS

This was my first experience studying abroad. The unfamiliar environment brought both excitement and anxiety, but it was also where I learned to adapt, grow, and keep moving forward.

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I am grateful to the PhD Program of Silpakorn University (International Program) for its support and understanding, and to all the experts who contributed their insights to this study.

My heartfelt thanks go to my family, classmates, and friends for their constant encouragement. And to everyone I met along the way, thank you for making this journey less anxious and giving me the courage to face the future.

Lastly, the mosquitoes here seem to like me very much, and I have come to embrace everything about this place with the same enthusiasm, just like a mosquito that does not bite but is simply drawn to what it loves.

Dong JINLUN

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Introduction

1.1 Background of the Research

1.1.1 Early Observations and Practice

In 2019, a project was undertaken to design several small-scale exhibition spaces located in contemporary rural villages throughout Yunnan. This work required extended periods of residency in the countryside, allowing for close observation of the daily lives of villagers and the dwellings they occupied. Although the houses in different regions showed some variation, a striking uniformity in their forms, styles, and materials was noted. In China, these houses are generally called “self-built houses.” While each family determines its own layout and functions, there appears to be an invisible template influencing the results-one that leads many to build in nearly identical ways.

Figure 1 Contemporary Rural Dwellings in Central Yunnan

Motivated by this observation, I initially attempted to design alternative houses for local villagers-homes that were more visually distinct, culturally recognizable, and cost-effective. My goal was to provide design solutions that could help break the pattern of homogeneity. However, as the investigation progressed, it became clear that the creative efforts of a single designer were insufficient to address

a systemic issue. The homogenization of rural dwellings was not an isolated phenomenon, but a widespread condition that could not be reversed by individual intervention. Simply put, it is not feasible for architects to design a unique home for every villager.

Figure 2 The author's design attempts for the villagers

Confronted with this limitation, I began consulting relevant literature and interviewing scholars and experts in the field of architecture. This led to a clearer understanding of the problem: the loss of regional architectural character is at the heart of this homogeneity (Lu & Jiang, 2019). Regionalism in architecture refers to a built form's response to local environmental, social, and technological contexts (Dong, 2022). Ideally, such responses should vary from place to place. Yet the proliferation of look-alike buildings suggests that this mechanism of localized adaptation is rapidly failing or even disappearing. To address this, Wu Liangyong argued that contemporary architectural design must draw inspiration from tradition and remain deeply rooted in local culture (Wu, 2002). But what kind of architecture can truly be called traditional, vernacular, spontaneous, and indigenous (Rudofsky, 1964)? These

characteristics clearly point to one category: vernacular architecture.

Figure 3 The Wulong Village construction project the author participated in 2020

In 2020, during a design project in Wulong Village, Yunnan, an attempt was made to draw inspiration from “Yikeyin”—a traditional courtyard-based housing typology native to central Yunnan. The project involved designing a series of communal spaces for the village. However, during subsequent return visits, it was observed that the villagers' sense of connection to these spaces was relatively weak. One key reason was the top-down nature of the design process. Villagers had little opportunity to participate directly, and thus failed to establish a sense of ownership or emotional attachment. Even though the new buildings visually resembled the Yikeyin dwellings they once lived in, they did not resonate with the users on a deeper level. This experience prompted further reflection: while “drawing from tradition” is a valid design strategy, the more urgent question became how to meaningfully translate the spatial language, construction logic, and cultural symbolism of vernacular architecture into a contemporary architectural language that aligns with modern rural lifestyles and modes of production.

1.1.2 Background of this Study

The previous mentioned engagement in central Yunnan is indicative of a much broader phenomenon. Similar challenges exist in many villages across China, especially those with a long-standing tradition of vernacular architecture.

Technological change and the shifting demands of the era have significantly impacted vernacular architecture and rural housing development. For example, a study of rural housing in Xinjiang found that local dwellings have gradually diverged from their traditional forms. Due to limited budgets and lack of professional design guidance, decisions about functional arrangements and decorative elements are often made arbitrarily, resulting in, built environment often lacks regional character and coherence (Che et al., 2021).

Similarly, another study in a Guizhou province village found that some villagers who had previously worked in urban construction returned home with exposure to modern building techniques. However, because their understanding of architectural language was superficial, they focused mainly on new technologies and materials, leading to a crude, contextually detached aesthetic that overlooked the cultural roots of rural space (Lü & Dai, 2020). This trend is further confirmed by Wu et al., who observed that the uncritical imitation of urban construction practices, especially when lacking cultural depth, has resulted in widespread disorder, poor building quality, and environmental degradation in many rural communities (Wu et al., 2017).

These cases highlight a core issue. The development of rural housing in China tends to follow a discontinuous trajectory. The shift from traditional vernacular dwellings to modern housing is often abrupt and unmediated, leading to the abandonment of cultural and architectural depth. It is important to recognize that the primary agents in this process are not professional designers or architectural scholars but the villagers themselves. However, most villagers do not possess the tools or knowledge to identify transferable values from traditional housing and reinterpret them in modern forms. This presents a pressing challenge for researchers to determine how to support villagers in becoming active participants in the evolution of their living environments, rather than passive recipients of external design.

The research focused on Yikeyin, a traditional dwelling type found in central Yunnan, where housing issues in this region clearly reflect the aforementioned problems. As modernization accelerates, the decline and disappearance of Yikeyin dwellings have become more pronounced. Therefore, this study takes Yikeyin as its main subject, aiming to explore how its traditional architectural language can be effectively translated within the context of contemporary rural life, and to identify possible ways for its reconstruction in a modern form.

Unlike previous design practices based on a top-down approach, this research builds on lessons learned from the 2020 project by adopting a bottom-up approach. The methodology is rooted in co-design informed by field research, employing a practice-led model in which research is conducted through the design process itself. In this way, the researcher can gain a genuine understanding of the villagers' needs and values, and propose a practical path for the revitalization of tradition.

1.2 Statement of Research Problems

The 2020 project demonstrated that simply replicating traditional forms is insufficient. Key intangible factors were clearly overlooked in the design process. Deeper elements played a crucial role in shaping villagers' sense of identity. Their absence resulted in lack of connection to the new spaces. This context establishes three core research problems.

- **Defining Yikeyin:** It is necessary to revisit and redefine what constitutes the Yikeyin dwelling, particularly its often-overlooked cultural and philosophical dimensions. While architectural research has focused on traditional building techniques, a clear definition of the philosophical foundation underlying this region prototype remains absent from current studies. - **Identifying what has been lost:** the second problem is to identify what has been lost in the translation from traditional to modern housing. This study compares traditional Yikeyin dwellings with contemporary self-bult houses to determine which architectural and cultural elements have been overlooked, forgotten, or abandoned.
- **Developing a method for restoration:** The third problem is to focus on how to carry out this restoration. The study aims to develop a methodology for translating the traditional architectural language of Yikeyin into a form that is compatible with modern lifestyles and construction methods, ensuring the design is understood and accepted by the villagers themselves.

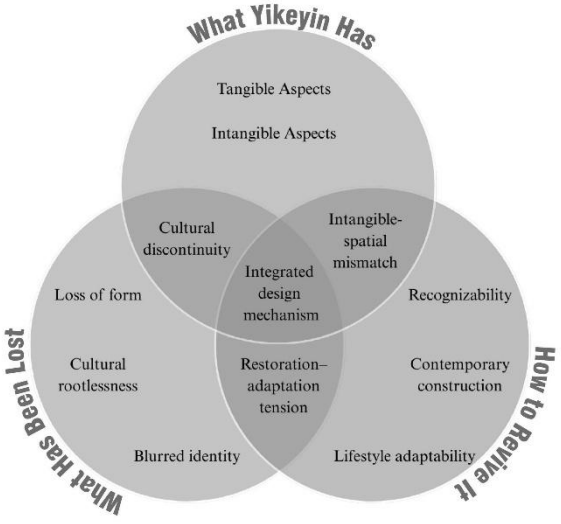


Figure 4 Research Problems

1.3 Research Objectives

The objectives of this research are:

1. To build a systematic framework for understanding the traditional

components of Yikeyin.

2. To identify the parts of Yikeyin that have been lost or weakened in contemporary rural areas.
3. To explore a pathway for the transformation of Yikeyin in contemporary rural dwellings.

1.4 Hypothesis of the Research

Earlier project results demonstrated that even when the traditional form of Yikeyin was fully replicated, the feedback was not positive. This suggests that what was overlooked in the design process was not merely the visible elements such as form, layout, decoration, structure, and materials, but more importantly, the intangible cultural meanings and philosophical ideas. The core hypothesis is that these intangible elements are the key reason for the failure of previous top-down approaches.

Therefore, this research hypothesizes that while a top-down design may function in urban settings. In rural contexts, it often lacks sensitivity to lived experience. A bottom-up approach, grounded in daily engagement with villagers, is proposed as a more effective method. This process allows ideas to emerge through shared observation and gradual adjustment, bringing the design process closer to actual demands and offering a more stable foundation for the revival of Yikeyin.

1.5 Broader Impacts and contributions

The results of this research expected to not only support the revival of Yikeyin, but also contribute to broader studies on how to adapt traditional architecture to modern contexts. The Yikeyin design database created in this research can offer inspiration and references for other designers. Furthermore, the use of Participatory Action Research provides a clear platform to observe how different stakeholders understand and respond to vernacular and modern housing, offering guidance for future researchers and design practitioners. The entire process may also serve as a repeatable and expandable model rural housing rooted in local culture.

1.6 Scope and Area of the Research

1. The research focuses on the central region of Yunnan Province, China, where Yikeyin dwellings are primarily distributed.
2. The Participatory Action Research (PAR) was conducted in Haiyan Village, Kunming, China. The main participants in the co-design process included local residents, government departments, and regional research institutions.
3. Based on previous literature and theoretical studies, the research focuses on the history, cultural meanings, and philosophical foundations of Yikeyin. Technical aspects such as structure and construction methods were not subjects of detailed analysis.
4. During the design process, the researcher and designer assumed the roles of

observers and facilitators. Personal preferences and aesthetic judgments were minimized. Design decisions were formed primarily through feedback and consensus among local participants.

5. The design focuses on spatial layout, material use, architectural form, cultural meaning, and philosophical expression. It does not include detailed construction joints or technical solutions.
6. The output is presented in the form of design proposals, including perspective drawings, floor plans, and elevations. Construction drawings and technical details are not included.
7. The primary outcome of this research is not only the design proposal, but more importantly the design experience and reflections gained through the iterative process of PAR.

1.7 Research Methodology

This study is conducted in three distinct stages:

Stage 1: Qualitative Analysis This study initial stage aims to establish the composition system of Yikeyin dwellings through literature review, theoretical analysis, and field research. The investigation covers both tangible components (space, functions, colors, materials, doors, windows, and decorative details) and intangible components (historical development, cultural meaning, and underlining philosophies such as Confucianism, Taoism, and Feng Shui). Field research methods include in-depth interviews, focus group discussions, and observation. This work culminates in the establishment of a preliminary database of Yikeyin component and a case study analysis of relevant co-design practices and vernacular modernization projects.

Stage 2: Comparative Analysis This stage builds upon the field research by employing a comparative method. Traditional Yikeyin dwellings are compared with the current rural houses, examining both tangible factors (spatial form and materials) and intangible factors (building methods, social conditions, and culture). Interdisciplinary concepts of complex systems theory and path dependence theory are introduced here to analyze these intangible factors.

Stage 3: Participatory Action Research (PAR) The final stage combines qualitative and quantitative method under the framework of PAR. This stage comprises three parts: Co-Design, Participatory Evaluation (PE), and Reflection, that forms a progressive cycle of action, reflection, and adjustment. Co-Design is conducted through workshops, with on-site design action recorded via observation. PE data is collected from questionnaires and interviews, followed by statistical analysis. Finally, the reflection phase involves a review and revision of the current plan through a focus group with experts and local authorities. Each completed cycle establishes the foundation for the next round of PAR.

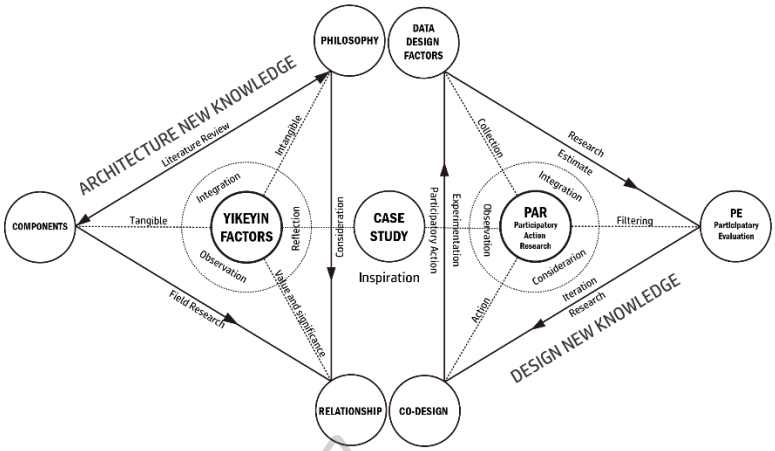


Figure 5 Methodology of the Research

1.8 Research Process and Framework

Literature Review

A review of existing studies on the spatial form, historical evolution, and philosophical ideas of Yikeyin, establishes the theoretical foundation and outlines the development of related research in Chinese academia.

Case Study

Case studies are included in the research methodology to provide inspiration and strategic references from other relevant projects involving vernacular transformation or co-design approaches.

Field Research

Site visits to central Yunnan and Haiyan Village were conducted to collect firsthand information through interviews and observation, supplementing local knowledge not covered in existing literature.

Data Analysis

Integrate findings from the literature and fieldwork to identify key components and develop a preliminary database of Yikeyin elements.

Expert Consultation

Verifying the compiled database of universities and research institutions in Yunnan to ensure accuracy and regional applicability.

Comparison Research

Identifying the key elements of Yikeyin that are lost or weakened compared to traditional Yikeyin and modern rural houses.

Interdisciplinary Research

Introducing complex systems theory and path dependence to examine the underlying causes of Yikeyin's decline.

Co-Design

Conducting multiple rounds of collaborative design with villagers in Haiyan.

Design ideas originate from the villagers and are guided and integrated by the researcher.

Artificial Intelligence Generated Content (AIGC)

Using AIGC technology to generate reference images that help villagers express their design ideas. These images are for communication purposes only and not for final presentation.

Computer Simulation

Converting the design proposals into drawings and renderings using AutoCAD and SketchUp to assist in evaluation and presentation.

Participatory Evaluation (PE)

Receiving feedback for each design round by distributing questionnaires and conducting interviews, followed by basic statistical analysis.

Reflection

Reviewing feedback to guide adjustments for the next design iteration.

Synthesis and Summary

Integrating all design rounds and feedback to identify core strategies for the modern transformation of Yikeyin and proposing a sustainable design model.

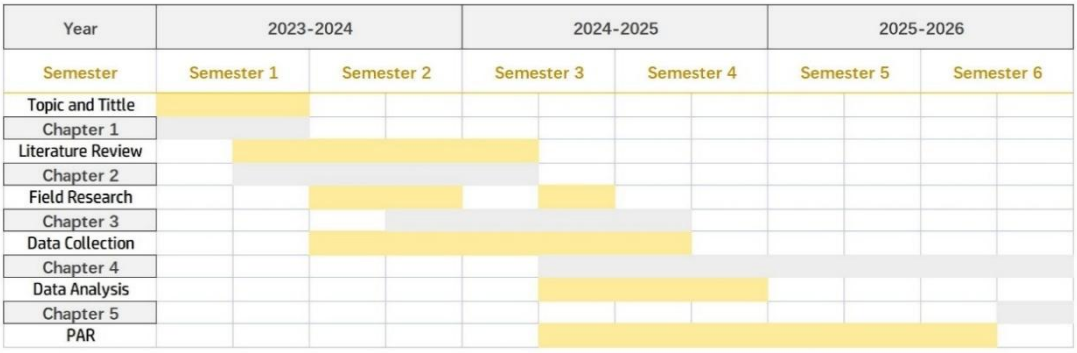


Figure 6 Research Timeline

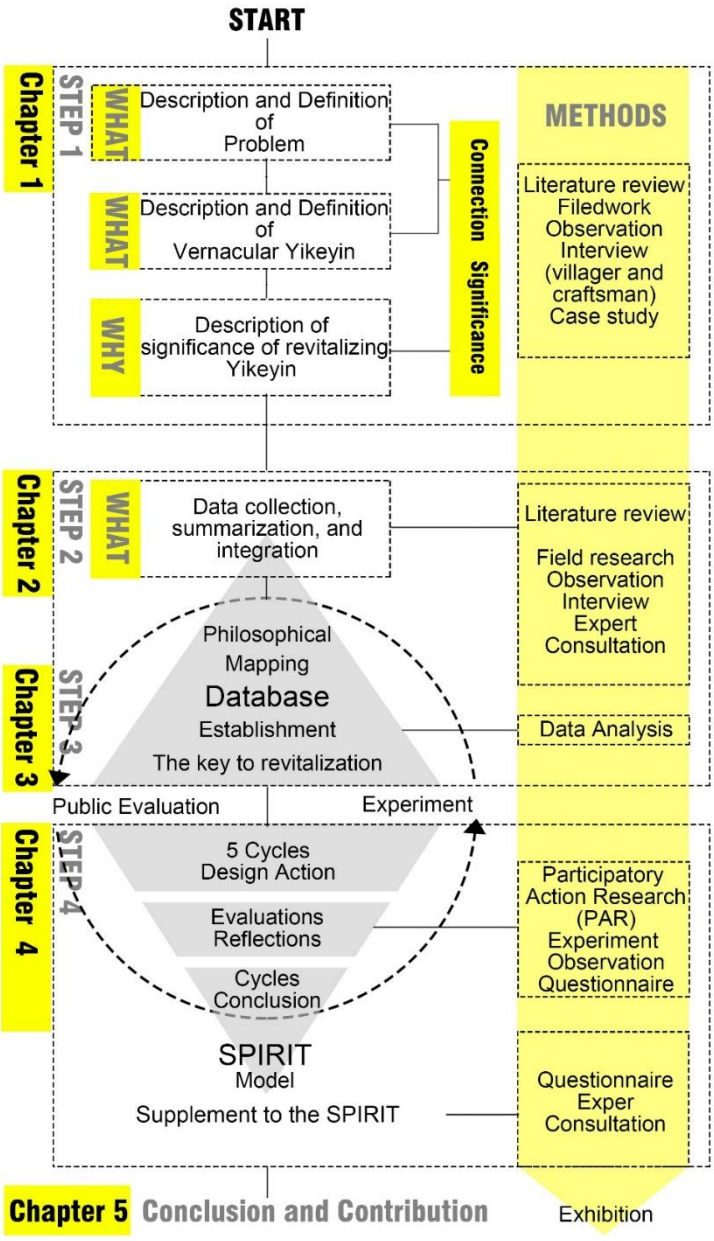


Figure 7 Research Framework

1.9 Research Outcome

This research produced the following key outcomes:

1. A structured database of Yikeyin residential elements was created, covering spatial layout, cultural features and philosophical meanings. This database serves as a foundational reference for both academic research and culturally grounded design practices.
2. Through fieldwork and participatory research, this study identified lost or weakened architectural elements of Yikeyin in contemporary rural dwellings,

providing insights into cultural discontinuities that can inform future heritage-oriented interventions.

3. An iterative co-design process was established using Participatory Action Research (PAR), enabling villagers to participate in shaping and refining the design outcomes. This provides a practical approach for community-engaged design in the context of rural architectural transformation.
4. The research presents a design model that offers an adaptable strategy for the modern transformation of Yikeyin and other vernacular dwellings types, contributing transferable principles to both design theory and rural housing development.

1.10 Definition of Terms

Yikeyin (一颗印)

Yikeyin is a traditional courtyard house commonly found in central Yunnan. It typically consists of a main house, side rooms, a front-facing building called "Dao Zuo," and a fully enclosed courtyard. The layout reflects local traditions, family structure, and cultural values. The name "Yikeyin" means "a single large seal," as the shape of the house resembles a traditional Chinese stamp.

Half-Yikeyin (半颗印)

Half-Yikeyin is a smaller or simpler version of the original Yikeyin layout. People often use this version when land is limited, the family is smaller, or building costs need to be reduced. It still retains some features of the original form.

"Dao Zuo" (倒座)

Dao Zuo is the building that faces the main house in a Yikeyin compound. It is usually located at the front and serves as a gate hall, a space for guests, or a transition area. It highlights the order and formality of the overall layout.

Interdisciplinary Research

Interdisciplinary research uses ideas and methods from different fields. In this study, it allows the researcher to examine complex changes that regular architectural methods may not fully explain.

Complex System Theory

Complex Systems Theory examines how systems with many components change over time. These components influence each other in ways that are not always predictable. This theory helps explain how rural housing develops and why some areas of Yikeyin were overlooked during modernization.

Path Dependence

Path dependence refers to the idea that past decisions can shape future outcomes. Once something becomes common, it can be difficult to change. In this

study, this concept helps explain why some old ways of building homes still affect today's rural housing and why some traditional features have slowly disappeared.

1.11 The Relationship between RQ, RO, RM and ROP

Table 1 RQ, RO, RM, ROP

RQ	RO	RM	ROP
1. What is a vernacular Yi Ke Yin" dwelling? 2. What are the key elements of the Yikeyin dwelling?	To build a framework for understanding of Yikeyin.	1. Literature review 2. Field research 3.Philosophical mapping	Understanding Yikeyin and establishing a database of its key elements.
1. What has been lost in the modernization of Yikeyin (elements to be revitalized). 2. The reasons behind the loss of Yikeyin in the modernization process.	To identify the parts of Yikeyin that have been lost or weakened in contemporary rural areas.	1. Literature review 2. Field research 3.Comparison research 4. Interdisciplinary reflection	Identify the aspects of Yikeyin that need to be revitalized, and understand the reasons behind their disappearance.
1. How can participatory design and philosophical reinterpretation support the transformation of Yikeyin in contemporary contexts? 2. What is the appropriate pathway for the modern transformation of Yikeyin? 3. What is the potential for adapting Yikeyin's core principles in the design of non-residential architecture?	To explore a pathway for the transformation of Yikeyin in contemporary rural dwellings.	Participatory Action Research (PAR): 1. Observation 2. Questionnaire 3. In-depth Interview	1.To obtain iterative design proposals and draw conclusions from multiple rounds of action. 2. To obtain SPIRIT design model. 3. Supplementing SPIRIT through non-standard applications of Yikeyin's philosophy.

Chapter 2

Literature Review

2.1 Introduction

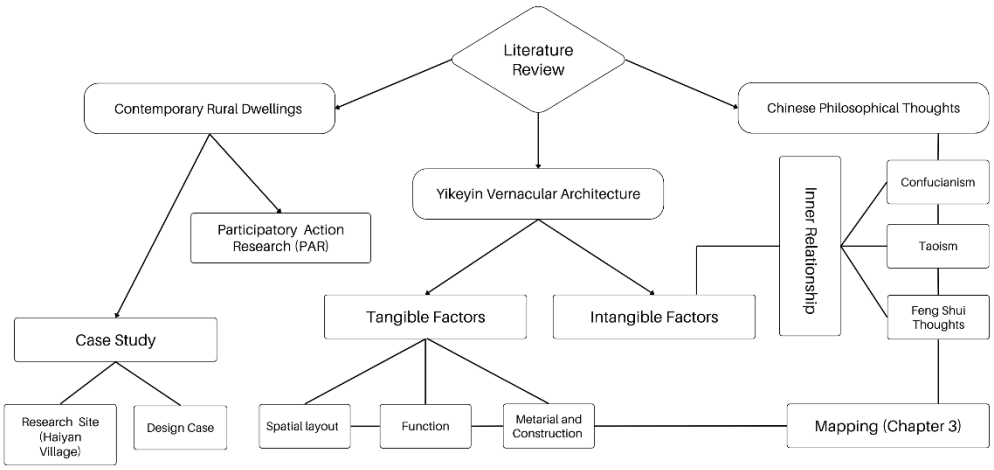


Figure 8 Chapter Structure

This chapter reviews literature on the traditional Yikeyin dwelling and its transformation in the context of contemporary rural housing. It begins with an introduction to the spatial and cultural ontology of Yikeyin, then contrasts it with contemporary rural dwellings in central Yunnan, which typically exhibit spatial homogenization and identity loss.

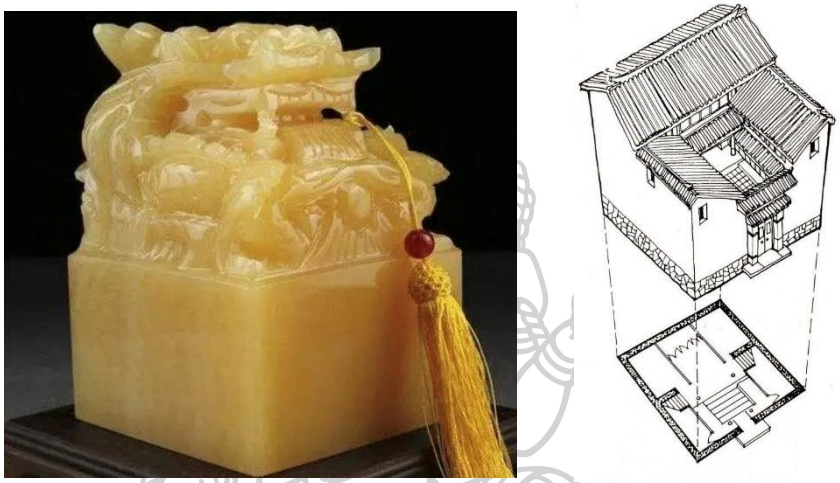
To elaborate on these processes, this chapter will present three typical Chinese traditional philosophical thoughts: Confucian hierarchical order, Taoist harmony with nature, and the spatial orientation and environment-adapted logic of Feng Shui. These invisible cultural logics play an essential role in understanding the structure of Yikeyin, but are usually absent in contemporary rural construction.

In addition, Participatory Action Research (PAR) is introduced as the methodological framework or this study, supporting co-design and iterative design with local communities. The chapter also includes case studies on vernacular modernization and co-design practices to inspire new design directions and provides background on Haiyan Village, the selected research site for fieldwork and participatory design.

2.2 Yikeyin

2.2.1 The Name and Meaning of Yikeyin

The literal translation of “Yikeyin” is “a large seal.” In ancient China, a seal was an important tool for document verification. It was used to mark decrees, contracts, and letters to show that the content was true and valid. The seal also indicated a person’s status and power. Officials used seals to issue orders, and emperors passed their power through the imperial jade seal. This demonstrated a strict political and ceremonial system.



(a) A large Seal (b) Yikeyin Dwelling

Figure 9 Comparison Between the Seal Form and the Yikeyin Dwelling
Source: (a). https://news.qq.com/rain/a/20221205A0477B00
(b). https://jianbihua.puchedu.cn/652458e05e2302ec.html

In this case, the seal was more than just a tool; it represented power, order, and trust. Vernacular houses in central Yunnan are square, with clear room organization and enclosed courtyards. Their shape resembles a seal, which is why people referred to them as Yikeyin (Yang & Zhu, 2009). Some studies state that the seal not only represents power and truth, but also protects the home and drives away bad spirits. In local belief, the seal is considered a beneficial object that dispels evil and brings peace. A home is where people reside, and calling it "Yikeyin" expresses the hope that those inside will be safe, healthy, and protected (L. F. Yang, 2005).

There is no clear written record of “Yikeyin” as a formal term. However, people in the area used this word long before it became a subject of academic study. The name originated from daily life and local knowledge. Later, even when experts began to study this type of house, they continued to use the same name to describe it.

2.2.2 The Origin and Historical Evolution of Yikeyin

In Chinese architectural studies, a widely accepted view on the origin of the

Yikeyin dwelling is that form emerged during the Ming dynasty, when large numbers of Han people migrated to central Yunnan. This migration brought the courtyard-style residential typology and construction techniques from the Central Plains to the region. Over time, these were gradually integrated with the indigenous rammed-earth dwellings of the Yi people (local residents), resulting in a courtyard house form with distinct regional characteristics, later known as Yikeyin. Earlier studies suggested that Yikeyin was a localized expression of traditional Han courtyard houses in central Yunnan (Liu, 1944), a view later adopted by local architectural scholars (Jiang, 1997). However, at that time, this interpretation lacked sufficient empirical evidence.

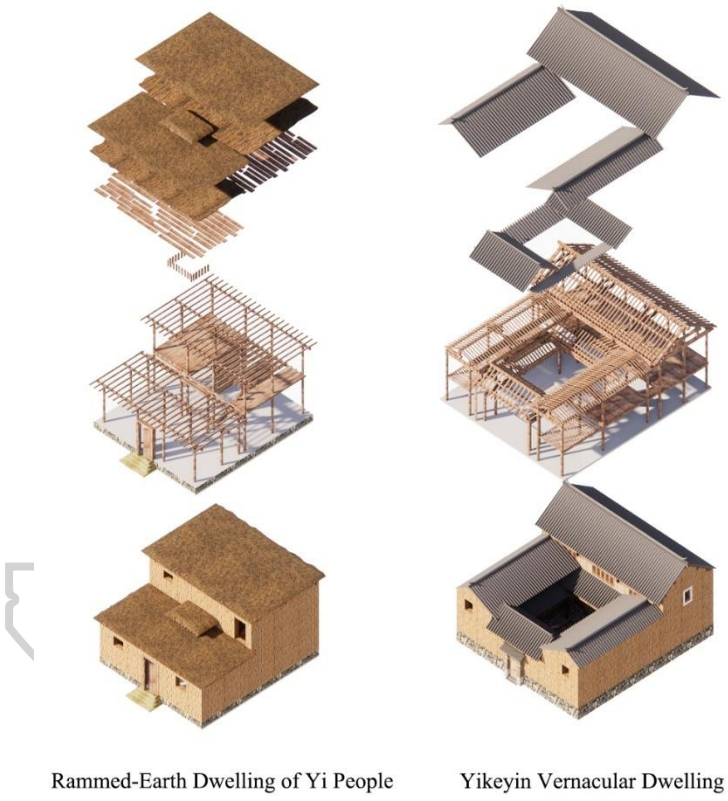


Figure 10 the Comparison Between Rammed-Earth Dwelling of Yi People and Yikeyin Vernacular Dwelling

Subsequent research began to assess the validity of this viewpoint from a historical perspective. After national unification in the early Ming period, the central government deployed military forces to Yunnan to eliminate remaining loyalist factions from the previous dynasty. To strengthen control, military settlers were stationed in the region. To support these troops, large-scale land reclamation was initiated. As trade between the Central Plains and Yunnan grew, more Han residents migrated into the interior (Cang, 1997). As indirect evidence of this demographic movement, several place names in Kunming still retain military references indicating

the historical locations of garrisons. Examples include “Zongshu ying” and “Doufu ying,” where the suffix “ying” refers to a battalion unit (Zhang, 1997). Records show that between 1391 and 1587, the population of Yunnan increased by more than one million. During the Wanli (1573–1620) reign, the total population reached about 1.6 million, of which Han people accounted for more than one million (Hua, 2001). Based on this data, it is reasonable to infer that the primary users of Yikeyin dwellings during the Ming period were Han people.

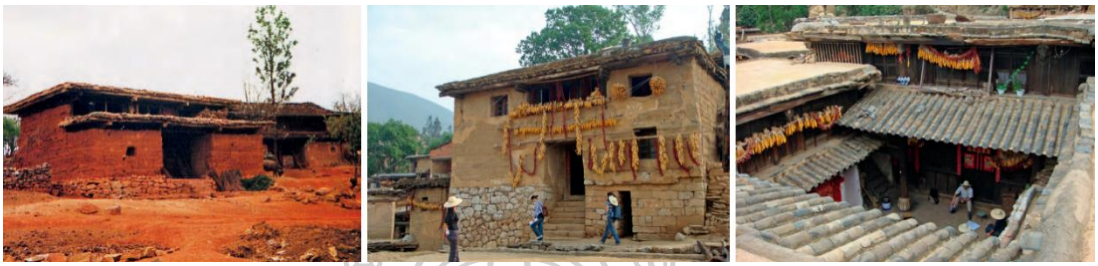


Figure 11 the Photos of Rammed-Earth of Yi People
Source: Yang & Wang (2022)

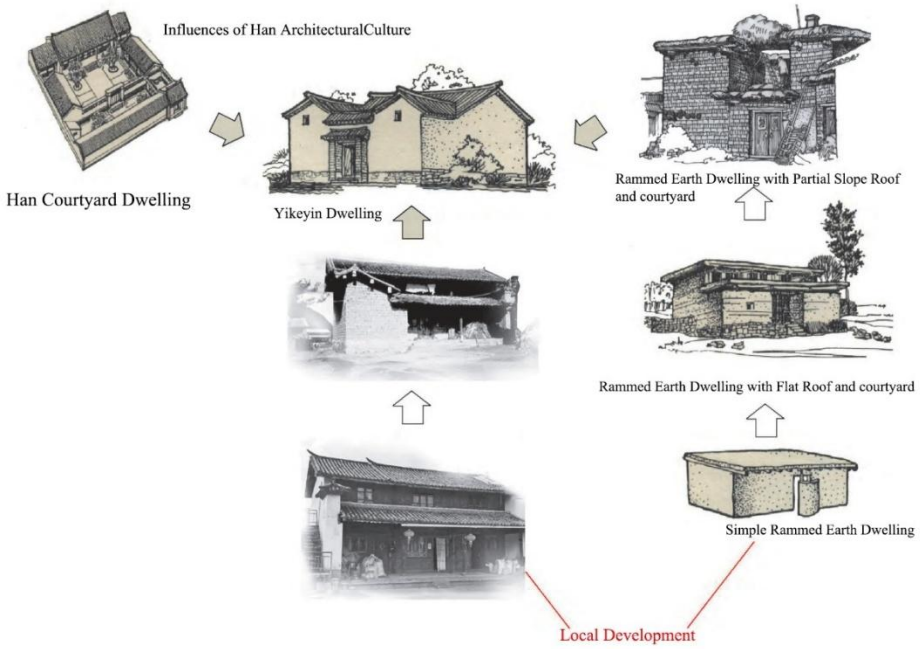


Figure 12 Diagram of the Development and Evolution of Yikeyin Dwellings
Source: Yang & Wang (2022)

Current research has confirmed that the architectural lineage of Yikeyin results from a fusion of Han architectural culture and indigenous residential traditions. A comparison of spatial configurations reveals clear similarities between the layout of Yikeyin and local rammed-earth houses. In terms of materials, the wall structures also

show direct influence from traditional Yi construction methods. Notably, while Yikeyin was shaped by local architectural practices, it also exerted influence in return. For example, original Yi dwellings did not feature courtyard organization. Through this process of fusion, courtyard layouts were gradually introduced, along with elements such as short-pitched eaves for improved drainage (Yang & Wang, 2022).

One interpretation suggests that the spatial scale of Han courtyard dwellings is significantly larger than that of Yikeyin, primarily due to topographical differences. The Central Plains are relatively flat and suitable for large courtyard layouts, whereas Yunnan is predominantly mountainous, with steep terrain and limited flat ground (L. F. Yang, 2005). Under these conditions, the smaller spatial patterns found in rammed-earth houses were more practical for construction. In adapting to the environment, Yikeyin may have incorporated these spatial features, enabling Han residential forms to better respond to the local terrain. As trade expanded and migration continued, the local craft system gradually matured, and construction practices became increasingly organized. Through this development, the Yikeyin type was steadily consolidated in practice and eventually became a widely used and regionally distinctive form of vernacular housing in central Yunnan over the past century.

2.2.3 Distribution of Yikeyin Dwellings

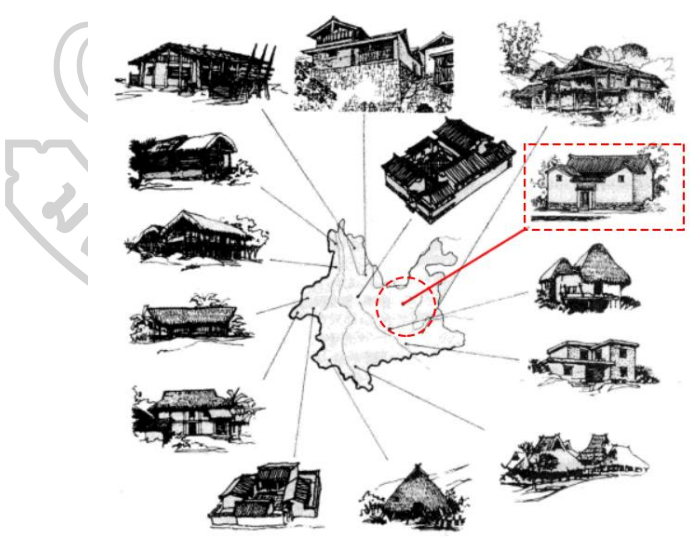


Figure 13 Distribution of Yunnan Dwellings
Source: Yang & Zhu (2009)

In its early development, Yikeyin was primarily found in the southern part of central Yunnan, with Tonghai as a focal area. The region served as a gathering point for craftsmen. Construction skills were passed down through oral instruction and apprenticeship. As local building activity became saturated, some craftsmen began to

move outward. Kunming, the provincial capital, offered broader economic opportunities and greater urban demand. Many craftsmen relocated, spreading the Yikeyin form into Kunming and its surrounding areas.

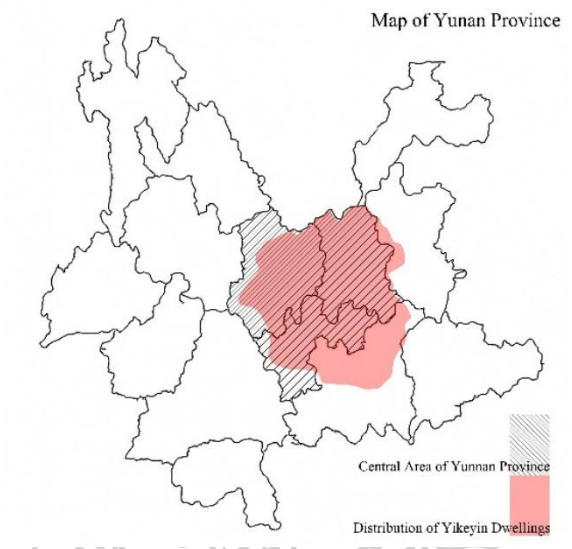


Figure 14 Distribution of Yikeyin

During the Ming dynasty, Yikeyin appeared in scattered clusters across the south-central region. By the Qing dynasty, the form had stabilized and its distribution widened. Over time, it became one of the representative types of vernacular dwellings in central Yunnan.

2.2.4 Tangible Architectural Elements of Yikeyin

2.2.4.1 Layout

The floor plan of Yikeyin can be described as "three rooms with two or four side rooms, and a Daozuo of eight Chi." The three rooms refer to the main hall, with two or four side rooms on either side. The Dao, or Daozuo, is located opposite the main hall. The depth of the Dao is eight Chi, approximately 2.66 meters, and it serves as an entrance hall. All rooms—the main hall, side rooms, and Dao—are two stories. Two stairways are located between the main hall and the side rooms.

The plan is square. The rooms enclose a central space, forming a courtyard in the middle. The courtyard is smaller than that of a Han courtyard house. It provides light, ventilation, and access, and it accommodates the terrain of central Yunnan. This is called the standard form of Yikeyin (Jiang, 1997).

The spatial arrangement follows a nine-grid pattern (Liu, 1996). The main hall is at the top of the central axis, with the Dao Zuo directly below it. Symmetrical side rooms are arranged on both sides, and a central courtyard occupies the middle of the layout. Together, they form a three-row, nine-grid structure. The courtyard serves as the spatial core. The layout is fully enclosed, the building units are

well-proportioned, and the dimensions are consistent. The spatial organization is clear, and the grid pattern is precise. This strict geometry is a defining feature of the Yikeyin typology.

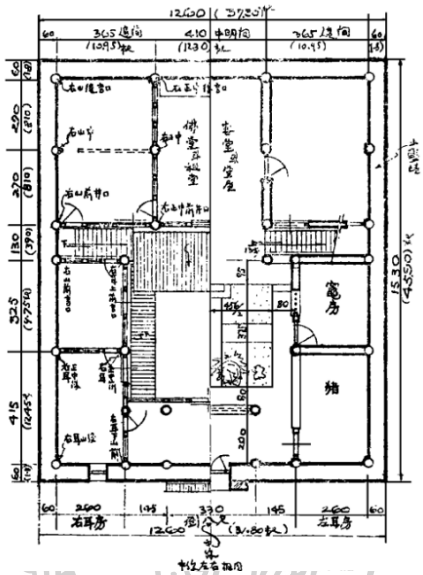


Figure 15 the Plan of Yikeyin
Source: Liu (1996)

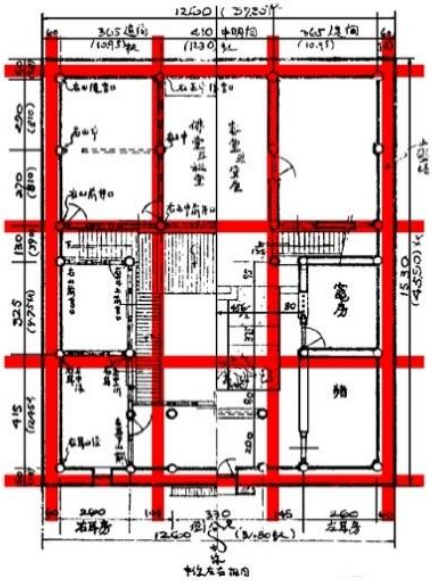


Figure 16 Diagram Based on Liu Zhiping's Perspective

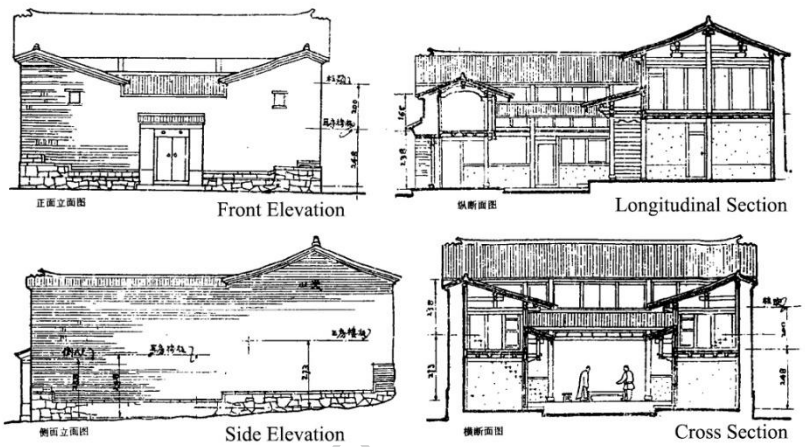


Figure 17 Elevations and Sections of Yikeyin
Source: Liu (1996)

According to earlier research, the structure is typically a two-story brick-and-timber system. The main hall has five structural bays in depth, while the side rooms have three. Each bay spans 1.2 to 1.5 meters. The main hall reaches a total depth of 6 to 7.5 meters in total depth, and the side rooms are 3.6 to 4.5 meters deep. The Dao maintain a fixed depth of eight chi, or 2.66 meters. In width, the main hall has three rooms, each 2.7 to 3.3 meters wide, for a total width of 8 to 10 meters. The side rooms and the Dao are narrower, mostly 2.5 to 3 meters wide per room. The stair lane between the main hall and side rooms is 0.5 to 0.66 meters wide (Liu, 1944).

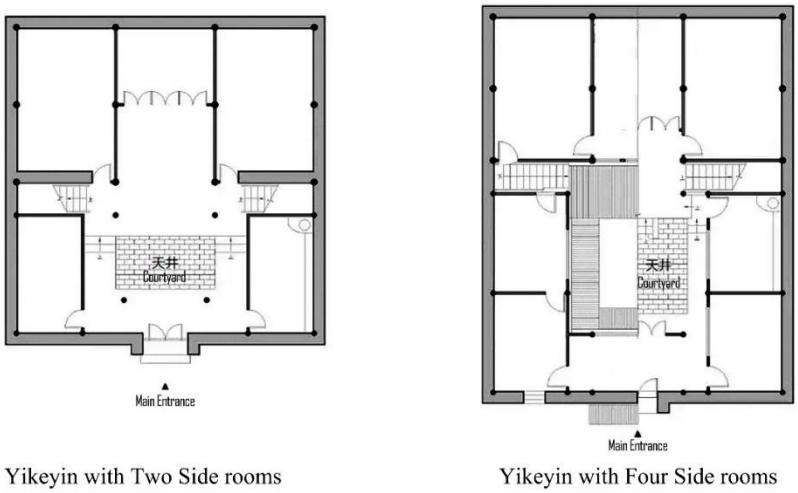


Figure 18 Yikeyin with Two Side Rooms and Four Side Rooms

The building heights follow a hierarchical order: the Dao is the lowest, the side rooms are higher, and the main hall is the tallest. Roof types are typically double-pitched or lean-to. The roofs of the side rooms slope inward toward the courtyard, resulting in high outer walls and low inner eaves. This configuration

improves daylight penetration, facilitates drainage, and enhances the sense of enclosure.

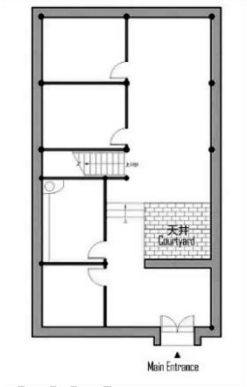


Figure 19 the Plan of Half-Yikeyin

Over time, various layout variations have emerged. The most common is the half-Yikeyin, in which one side of the side rooms is omitted. In some cases, the main hall is also reduced to two rooms. These changes are usually adaptations to site constraints or budget limitations.

There were also simplified forms. Some omit the Dao. A rammed-earth wall is built at the rear. The courtyard becomes larger. These variants appeared from the late Qing period to the 1980s. Most households were poor. Full-scale forms were rarely used.

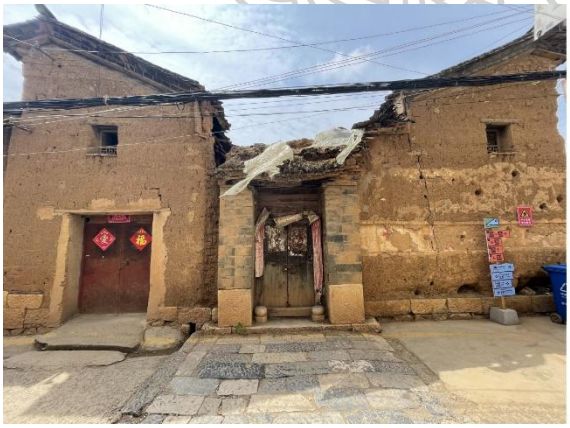


Photo of Yikeyin

Photo of Half-Yikeyin

Figure 20 Photos of Yikeyin and Half-Yikeyin

2.2.4.2 Materials of Yikeyin

The main materials used in Yikeyin dwellings are earth, timber, stone, and brick. All of these are traditional materials.

Figure 21 Two Processes of Building Wall
Source: Baidu.com

Figure 22 The Walls of Yikeyin

Earth is the primary material for the enclosure walls. Craftsmen typically use two construction methods: the rammed earth method and the stacking of adobe bricks. In the rammed earth method, soil is poured between two wooden boards. Straw or snail shells (especially near the Dian Lake area) are added to improve binding. Wooden or stone tampers are used to pound the mixture repeatedly until it becomes compact. In the adobe stacking method, wooden molds shape a mixture of earth and straw into blocks, which are then dried and stacked to build the walls. Earthen walls are rarely found in Han courtyard houses in northern China but are common in cave dwellings in Shanxi province and flat-roofed houses in Xinjiang. Notably, before the arrival of Han-style housing in central Yunnan, the local Yi people had already widely used these wall-building techniques. Some studies indicate that rammed earth walls have good thermal performance, helping regulate indoor

temperature in highland areas with large temperature differences between day and night (L. F. Yang, 2005). Therefore, the use of earthen walls in Yikeyin should be regarded as a localized adaptation of Han housing influenced by Yi dwellings.

Timber is used in the building's structural system, specifically in the beam-column framework. It is also used for components such as doors, windows, and floors. Pine is commonly chosen for beams and columns due to its straight shape and ease of processing. The wood used for doors and windows varies in type, and selection is relatively complex. As a traditional material, timber has long been used in construction. Yunnan is mountainous and rich in forest resources, so it is not surprising that timber became one of the main materials in Yikeyin construction.

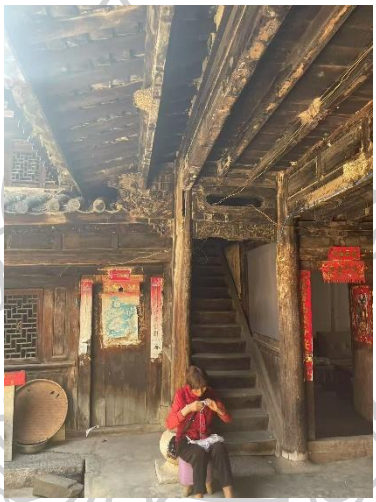


Figure 23 The Wooden Beam-Column Framework

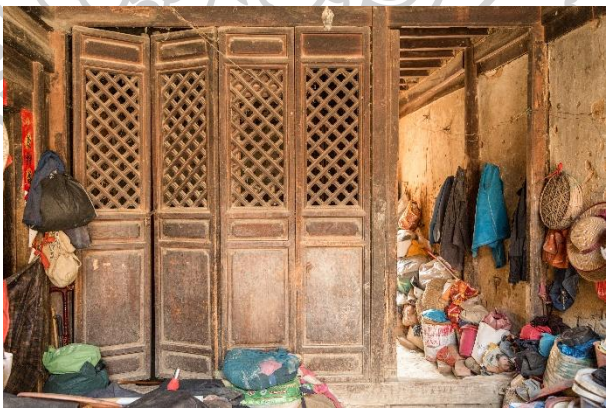


Figure 24 Wooden Doors

Figure 25 Stone Doorposts and Wall Bases

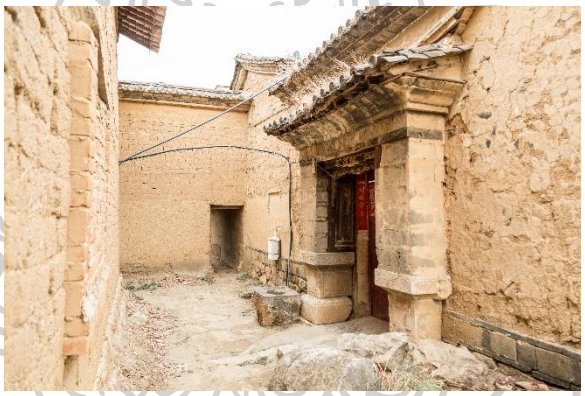


Figure 26 Column Base

Stone is primarily used for foundations, wall bases, doorposts, and column bases. Yunnan’s terrain is uneven and has significant vertical variation. Using stone for foundations helps prevent wall cracking and frame deformation caused by settlement. The cost of stone is higher than that of earth or brick, partly because it is more difficult to quarry and process. However, stone is still used for doorposts in Yikeyin, as the entrance carries symbolic meaning and reflects the owner's identity and status. Stone column bases help prevent wooden columns from absorbing moisture through ground contact and cracking over time.

At the eaves, bricks can be used to prevent rainwater from flowing back into walls. Historically, more expensive than earth or wood, brick saw increased use after the establishment of the Republic of China in 1912. With advancements in industrial production, bricks gradually replaced stone as the primary material for entrances. In some wealthier households, bricks even replaced earth as the main material for walls.

Tiles, typically made from fired clay, serve as the primary roofing material

and are laid over the rafters.

Figure 27 Bricks at the Eaves

Figure 28 The Tiles for Roof

2.2.4.3 Structure of Yikeyin

There are generally two types of structural systems in traditional Chinese architecture: post-and-lintel construction (Tai Liang) and post-and-beam with through-purlin structure (Chuan Dou) (Pan, 2014). Post-and-lintel construction is mostly found in large buildings such as palaces and temples, while the post-and-beam with through-purlin structure is more common in residential architecture. Yikeyin uses the post-and-beam with through-purlin structure, in which through-beams connect the columns to form the roof frame (Hou & Li, 2002). Purlins are placed directly on the column heads. Along the direction of the purlins, strut beams connect the columns, forming a complete structural frame.

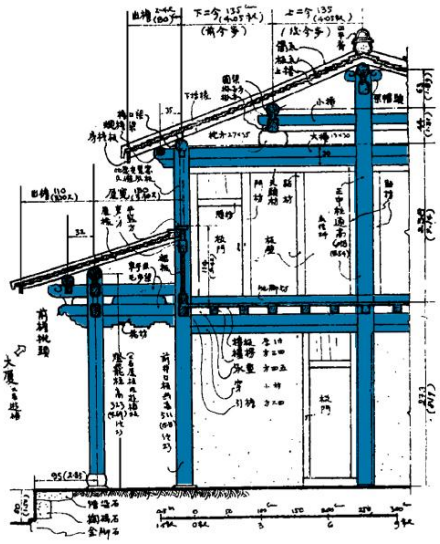


Figure 29 The Structure of Main Room
Source: Edited by Author Based on Liu (1996)

The main hall of Yikeyin is a timber-frame structure supported by three rows of twelve columns. These columns are connected by through-beams and strut beams, upon which five purlins are laid horizontally. Rafters are then placed on the purlins to support the roof tiles.

In front of the first row of columns, veranda columns are added and connected with eave beams. Additional purlins and rafters are placed on these eave beams, forming a short sloped lean-to roof that functions primarily for drainage.

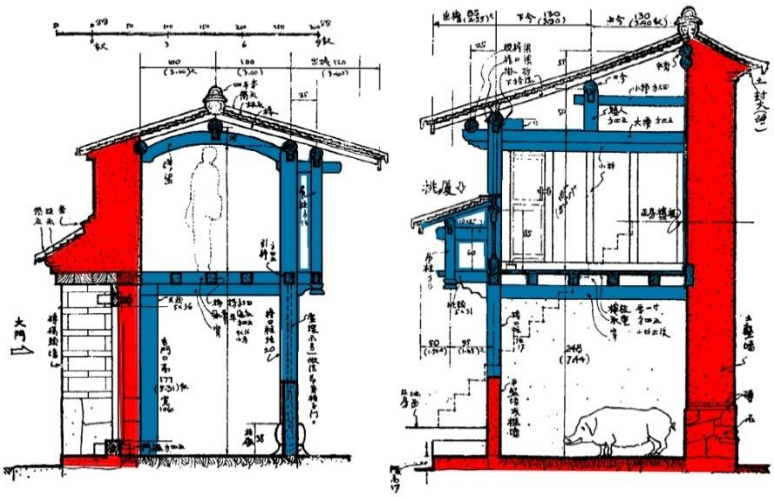


Figure 30 The Structure of Daozuo and Side room
Source: Edited by Author Based on Liu (1996)

The side room is supported by two rows of four or six columns, used for two bays on one side, forming the beam system. One row of columns adjacent to the wall is embedded in the wall. Unlike the main hall, the lean-to roof of the side room does not have veranda columns. Instead, the through-beam that supports the floor extends outward. At the end of the beam, a hanging post supports the strut beam and purlin. The hanging post does not reach the ground.

The structure of the Dao is similar to that of the side room. One row of columns is embedded in the wall. The difference is that the height of the Dao is lower than that of the side room. To address the height issue, the strut beam on the second floor is curved to allow for normal standing and activity.

Figure 31 The Structure of Yikeyin

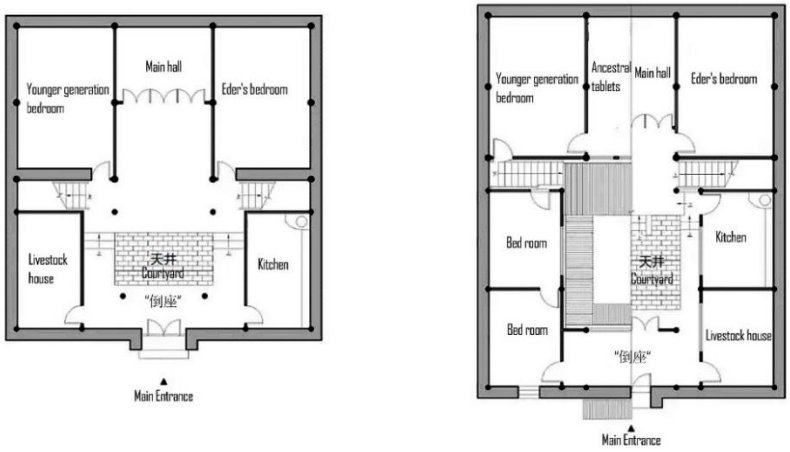
2.2.4.4 The Spatial Function of Yikeyin

A complete Yikeyin space includes the main hall, bedrooms, kitchen, livestock room, storage room, and entrance hall.

The spatial arrangement of these functions in Yikeyin is as follows:

1. Main Hall

   The central space on the first floor of the main hall is called the Tangwu, which functions as a living room and serves as a place for family gatherings and receiving guests. Bedrooms are arranged on both sides of the Tangwu. The staircase between the main hall and the side rooms leads to the second floor. The central room on the second floor is used for ancestor worship or for placing religious statues, and the rooms on both sides are also used as bedrooms.



Yikeyin with Two Side rooms　　Yikeyin with Four Side rooms

Figure 32 The Spatial Function of Yikeyin

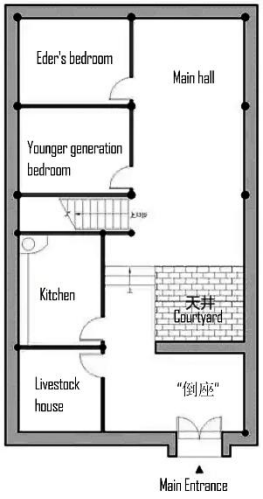


Figure 33 The Spatial Function of Half-Yikeyin

2. Side Rooms
   On the first floor, in the left-side room, the room closest to the main hall is the kitchen. If there are two rooms on the left, the one near the Dao is used as a livestock room. The right-side room is arranged as a bedroom or for storage. Sometimes, both rooms on the right are used as bedrooms. If there is only one room on each side, the right-side room is used as a livestock room rather than a bedroom. The second floors of both the left and right side rooms are used as bedrooms. Note that the left and right side rooms are defined based on the orientation of the main hall, with the direction the main hall faces generally considered the front.
3. Daozuo (Dao)

The first floor of the Daozuo serves as the entrance hall, connecting the main gate to the courtyard. The second floor is used as a storage and utility room.

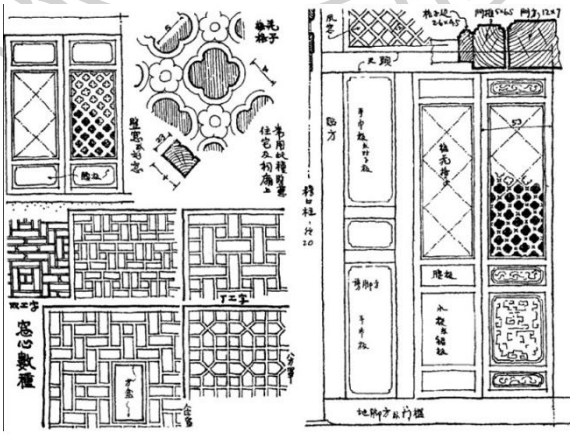
There is no toilet in Yikeyin because traditional Yikeyin did not have a developed underground sewage system. Residents needed to use public toilets outside the house. This is also related to their mode of production, as most residents were farmers. Human waste was processed into fertilizer for crops. Public toilets allowed for centralized management and transportation (L. F. Yang, 2005).

2.2.4.5 The Decorations of Yikeyin

The decoration of Yikeyin mainly appears on components such as doors, windows, strut beams, through-beams, hanging posts, door heads, and door pillars. The common decorative technique for doors and windows is openwork carving. According to literature, door decoration mostly appeared during the Ming and Qing dynasties, before the Republic of China. In Yikeyin built in modern times, elaborate decoration is rarely seen, and doors are left undecorated, replaced with plain wooden boards. Additionally, due to the division of labor in the late Qing period, the craftsmen who built Yikeyin did not perform decorative work. Most decorative craftsmen came from Jianchuan in Dali and Tonghai in south-central Yunnan.

The decorative techniques on strut beams and through-beams are similar to those on doors and windows, using wood carving to create intricate shapes. These shapes have various themes and meanings.

The common decorative method for hanging posts is to carve lotus or peony patterns at the bottom of the column. During the Republic of China period, the decoration of hanging posts was simplified to geometric patterns.



The Decorations of Windows　　The Decorations of Doors

Figure　34 The Decorations of Windows and Doors
Source: Liu (1996)

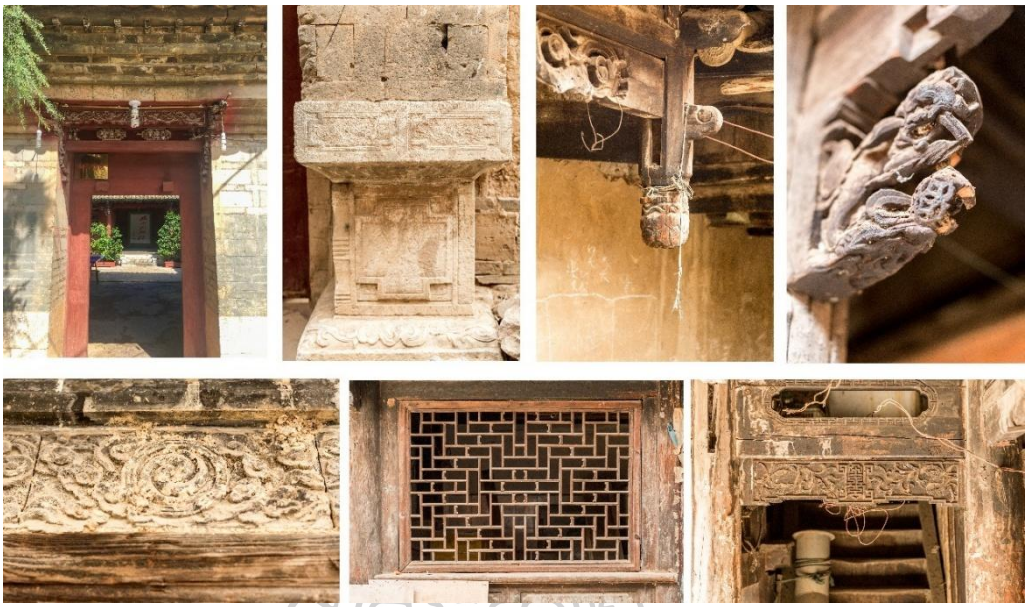


Figure 35 The Decorations of Yikeyin

Door heads and door pillars are the most richly decorated components in a Yikeyin. These areas feature not only wood carving on strut beams but also stone carvings and brick carvings. As the symbolic “face” of the building, the main entrance reflects the owner’s status and honor.

It is worth noting that many decorative elements or motifs are not part of Yunnan’s local culture. These decorative techniques and styles display strong Han cultural characteristics. When Han people migrated here during the early Ming dynasty, they brought not only the courtyard-style housing model but also their culture, decorative skills, and architectural aesthetics.

2.2.5 Research Overview of Yikeyin Architecture

As an ancient civilization, China has preserved a large number of traditional buildings, and the study of these structures has a long history. Early research on traditional architecture primarily focused on official buildings, such as halls, pavilions, and pagodas. Liu (1956) was the first to propose treating vernacular dwellings as a type of architecture and to conduct related studies. From the 1940s to the late 1940s, Liu's research at this stage remained basic, including field investigation, architectural surveying, and typological classification. After surveying many vernacular dwellings in Yunnan, Liu (1944) was the first to introduce the unique dwelling of central Yunnan—Yikeyin—to the Chinese architectural field through an academic paper. This article was based on fieldwork, not only recording basic information about Yikeyin, but also, through in-depth interviews with craftsmen, documenting the construction techniques of Yikeyin. However, due to the particular background of China’s historical development, the scope of research on Yikeyin did not expand significantly

between the 1960s and the 1980s. The research content remained mostly descriptive, but it is worth noting that research during this period focused on supplementing and improving earlier work.

From the late 1980s to the 1990s, research on traditional dwellings in China gradually shifted from descriptive studies to architectural conservation (A & Wu, 2017). Research on the conservation of Yikeyin began slightly later than that of other vernacular dwellings in China, such as the Siheyuan in Beijing, the Tulou in Fujian, and cave dwellings in Shanxi (Liu, 2007). In the late 1990s, local scholars in Yunnan introduced cultural studies into the field of vernacular architecture (Jiang, 1997; Yang & Zhu, 2009). However, most of this research focused on the overall vernacular dwelling system in Yunnan, and cultural discussions of Yikeyin remained superficial, mainly form general introductions. Nonetheless, the work of these early researchers provided new research directions for later scholars.

After entering the new century, research on Yikeyin began to expand into other disciplines, such as anthropology and sociology. For example, L. F. Yang (2005) conducted an in-depth investigation and interviews, documenting the construction process of Yikeyin from the perspective of craftsmen. This micro-level perspective filled a gap in the study of Yikeyin construction. At the same time, some research began to focus on the spatial construction logic of Yikeyin (Liu, 2008), indicating that related studies were gradually becoming more in-depth.

From 2010 to 2020, research in China on vernacular dwellings gradually shifted from spatial form and construction logic to the formation and evolution of rural dwellings and village settlements (Liu et al., 2016). However, research on the Yikeyin itself still focused primarily on spatial construction and structural systems. During this period, several studies and design attempts on the conservation and reuse of Yikeyin also emerged (Jiang, 2017; Xu, 2013). Most of these works, however, remained at the formal level, focusing only on the tangible elements of Yikeyin and simply applying its form to modern design. This approach was similar to the practice project the author participated in during 2020, which directly imitated the architectural form of Yikeyin and lacked a systematic evaluation mechanism to assess design behavior and actual outcomes.

Encouragingly, from 2000 to 2020, a considerable amount of research began to focus on the cultural connotation and architectural essence of Yikeyin (He et al., 2010; Tian & Xu, 2010; Zheng, 2015). However, many studies exhibited content repetition and insufficient depth, remaining at surface-level descriptions and failing to establish a correspondence between cultural characteristics and architectural details. Most appeared form popular introductions, with vague descriptions and a lack of theoretical breakthroughs.

After 2020, research on Yikeyin gradually shifted to architectural technology analysis and historical discussions (Yang & Wang, 2022; Yang et al., 2025). However, overall, the number of studies on Yikeyin has shown a declining trend since 2020.

In general, the scope of research related to Yikeyin is relatively broad. However, the discussion of architectural philosophy and cultural essence remains limited. Although many documents mention philosophical content, most studies do not provide in-depth analysis at the philosophical level and often present it only form general introductions. Some scholars have attempted to conduct mapping analysis between culture and architectural phenomena (Jiang et al., 2016), but their research results only offer a preliminary direction for the field and have not established a systematic and comprehensive theoretical framework.

It is commendable that these documents provide valuable references and a foundation for scholars who intend to conduct deeper studies.

2.3 Contemporary Rural Dwellings

2.3.1 Types of Contemporary Rural Dwellings

The architectural types involved in contemporary rural dwellings in China are relatively complex, and it is challenging to comprehensively delineate this type of housing category. However, we can list the general types of these dwellings from the perspective of the construction participants.

The first type is where the homeowners engage local construction teams to build according to their own needs. It should be noted that these local construction teams do not possess the professional competence of architects; rather, what they master is merely construction experience acquired from urban construction activities.

The second type is rural housing involving professional architects and design teams. This type of housing is still a minority in rural China. Its users are mostly urban residents who have relocated to the countryside. Such housing often carries a certain degree of commercialization. For example, urban residents invest in rural dwellings and operate them as guesthouses or homestays to obtain economic returns.

The third type is rural housing led by the government, with relevant planning and construction departments participating in unified management and design. This design model is usually planned and designed at the village or township level, and the final structures are handed over to the villagers. Throughout the whole process, the villagers only need to provide the corresponding construction costs.

Among the above three types, the first type accounts for the vast majority of current rural dwellings and thus basically represents the overall situation of contemporary rural housing in China.

Figure 36 The Types of Contemporary Rural Dwellings

2.3.2 Relationship with Traditional, Vernacular, Popular, and Spontaneous Architecture

Prior to defining contemporary rural dwellings, we need to examine how related architectural terms have been defined in academic discourse, in order to understand the relationship between the architectural types that have historically emerged in rural areas and current rural dwellings.

2.3.2.1 Vernacular Architecture

The definition of vernacular architecture has a long history. Initial academic attention to vernacular architecture originated from Bernard Rudofsky (1964) on un-design or spontaneous spaces. He described a kind of spontaneously generated space and place as "Vernacular, anonymous, spontaneous, indigenous, rural, as the case may be." Among these, the term "Vernacular" received special attention and is often discussed together with "rural" and "indigenous" (p.1).

Later, Amos Rapoport (1969) defined it as a type of architecture formed in a specific geographic context in response to the local physical and cultural environment. He believed that vernacular architecture emphasizes local techniques and construction methods, and develops clear typological models and regionally distinctive architectural elements (Rapoport, 2006). Unlike Rudofsky's emphasis on "spontaneity," vernacular architecture may involve community- recognized skilled craftsmen, and it represents a more systematic and regionally specific form of architecture (Oliver, 1997; Rapoport, 2006). Oliver (2006) further emphasized that vernacular architecture should reflect regional cultural expression and play an important role in architectural identity.

2.3.2.2 Traditional Architecture

The concepts of traditional architecture and vernacular architecture are often conflated (Carlos *et al*., 2015). The confusion primarily stems from certain key stakeholders—such as architects, historians, critics, and writers—who have, during the process of dissemination, oversimplified vernacular architecture and classified it

under the same framework as traditional architecture and spontaneous space (Papanek, 1995).

In fact, traditional architecture covers a broader as significantly broader scope. Its origins can be traced to intergenerational oral transmission and construction experience (Dias *et al*., 1969). Compared to vernacular architecture, some traditional architecture involves higher economic investment, serves a higher social class, and carries commemorative or symbolic functions (Baker, 1999; Carlos et al., 2015). For example, ancient Chinese palaces and temples, due to their complex structure, craftsmanship, and symbolic meaning, should be categorized under traditional architecture and cannot be simply generalized as vernacular architecture. Although both emphasize reliance on local resources and regional character, traditional architecture is more diverse in form and technique, and may integrate academic or engineering knowledge to produce more technically refined architectural results (Oliveira & Galhano, 1998).

2.3.2.3 Popular Architecture

Compared with vernacular and traditional architecture, which rely heavily on local techniques and materials, popular architecture emphasizes economy and practicality (Flores, 1973). This type of architecture is usually regarded as a product of poverty or modest conditions, built by users or local community residents themselves, with little reliance on professional craftsmen or technicians (Llano Cabado, 1983). It evokes Rudofsky's concept of "Spontaneous Architecture," and the two share some overlap. However, the current understanding of popular architecture has become more diverse. Modern popular architecture is more flexible in technical choices and material use, often adopting industrial or non-local materials (Duarte Carlos, 2014). This contrasts with the "indigenous" emphasis found in vernacular and spontaneous architecture.

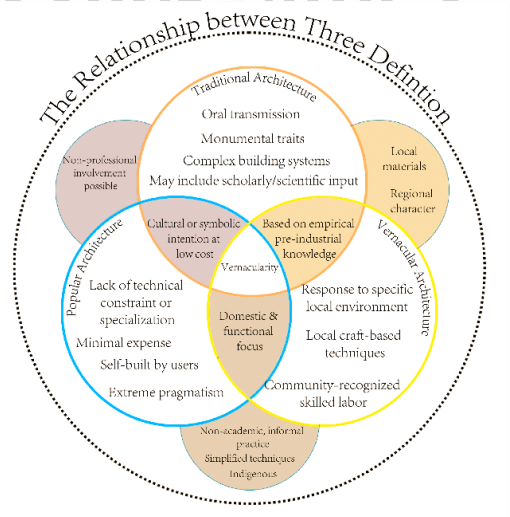


Figure 37 The Relationship with Traditional, Vernacular, and Popular Architecture

2.3.3 The Definition of Contemporary Rural Dwellings

From the previous analysis of vernacular, traditional, and popular architecture, it is clear that the traditional Yikeyin dwelling can be classified as vernacular architecture. However, in Chinese academic circles, there is still no accurate definition for current rural dwellings (the first type mentioned earlier). According to the literature review, current rural dwellings are referred to by various terms such as Self-Construction, Self-Built Dwellings, and Rural Self-Built Dwellings. Regardless of the term used, none accurately describes the actual condition of contemporary rural dwellings in China.

According to the research of Wang (2013), the construction typologies of rural dwellings in China can be divided into the following two types.

The first is the form of mutual help and labor exchange, where construction is carried out through community participation. For example, when a household needs to build a house, they invite neighbors or relatives to help with construction. In this process, no direct monetary compensation is exchanged for the assistance. When other families in the community need to build houses, the original recipient will offer help in return without compensation. This kind of cooperative home-building model is often seen in vernacular architecture and mostly occurs in remote mountainous areas where the construction industry is underdeveloped. It has become relatively rare in contemporary rural China and mostly belongs to pre-modern construction practices.

The second is a construction mode where the homeowner establishes a contractual relationship with craftsmen or local construction teams. In this construction mode, the homeowner, as the user of the house, does not directly participate in the construction process. They are responsible for procuring the building materials and contracting craftsmen or construction teams. The homeowner only participates in decision-making and the final delivery stage. This latter mode accounts for the vast majority of cases observed during the fieldwork in this study. Moreover, this construction mode is more similar to the popular architecture analyzed earlier, which no longer uses local materials, but instead adopts more economical and industrialized materials.

A study on the existing housing model in England clearly identified academic terms similar to those used for the construction of contemporary rural dwellings in China (Heffernan & De Wilde, 2020). According to this study, Barlow et al. (2001) described self-build as any form of housing in which the initial users are involved in the building process, either by arranging the construction or by participating in some part of the building work themselves. Benson and Hamiduddin (2017) further noted that this term is often used broadly, covering various self-building approaches. While this term applies to contemporary rural dwellings in China, from a semantic perspective, self-build is easily interpreted as users physically participating in construction, which does not reflect the current construction method of rural dwellings. According to Wang (2013), in construction under contractual relationships, users do not directly participate in building the house; they serve only as

decision-makers and recipients of the final product. Therefore, self-build or self-built is not entirely accurate.

Duncan and Rowe (1993) proposed using "self-provided" instead of "self-build" to include both people who build themselves and those who hire contractors to complete the construction. "Self-provided" is indeed more accurate.

A similar term is "self-managed," but this term focuses more on the overall community level, emphasizing collective organization, control, and management by the residents, making it more suitable for describing collective housing models (Tummers, 2016).

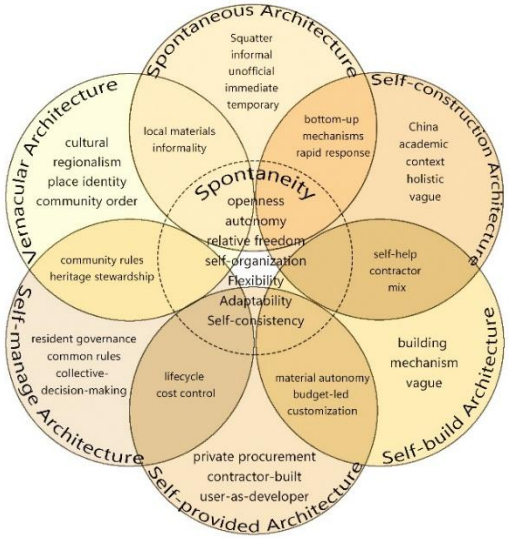


Figure 38 Mapping Architectural Spontaneity

In summary, contemporary rural dwellings can be defined as self-provided popular housing. Although contemporary dwellings in central Yunnan have lost many vernacular features of the Yikeyin dwelling, in terms of compositional definition, this type of self-provided popular housing is indeed in the same lineage as Yikeyin. Spontaneous architecture, traditional architecture, vernacular architecture, and self-provided popular dwellings share a common characteristic: spontaneity. The decision center for the design, construction, and evaluation of the dwelling lies with the users themselves.

2.3.4 Recent Developments and Research Review of Contemporary Dwellings in China

After 1985 and 1995, rural China experienced two waves of house construction. The construction boom in 1985 resulted from a policy shift. The implementation of the household responsibility system promoted social and rural productivity. Increased productivity led to the development of the rural economy. At that time, many villagers began to consider improving their living conditions and

planned to build new houses or renovate old ones.

With the introduction of a new national policy allowing villagers to settle in towns, many people began migrating to urban areas. These individuals, who had previously relied on farming, started working in cities. Most chose to enter the construction industry and thus acquired construction skills as a means of livelihood. However, these skills were experiential and consisted of fragmented knowledge formed through subjective observation and self-summary in practice. As a result, their modern architectural language was rough. Nevertheless, the novelty of these experiences inspired aspirations for modern architectural ideas in both construction techniques and spatial experience. This modern architectural language was brought back to rural China and was widely used during the first wave of rural house construction. Between 1985 and 1995, most new rural dwellings were one-story structures built with brick and timber. Between 1995 and 2004, most rural dwellings were brick-concrete structures, and two-story houses became more common.

The House built in First Wave of Construction The House built in Second Wave of Construction

Figure 39 Dwellings Built During the Two Waves of Rural Construction

According to Tan and Zou (2021), contemporary rural dwellings in China evolved from vernacular dwellings but were influenced by modern civilization, resulting in the loss of original construction methods, the disappearance of traditional rural features, and the emergence of regional homogenization. Academic evaluations of such dwellings in contemporary China indicate that they are spontaneous rural constructions lacking effective macro-level control and guidance, with most blindly imitating urban architectural models and focusing on short-term benefits (Wu, 2015).

Since 2004, China has experienced a third wave of housing construction. Unlike the previous two waves, this phase features new dwellings that, while still using modern industrial materials such as reinforced concrete and glass, incorporate a new “European style” that uncritically adopts Western classical architectural elements. Such rural houses are commonly found in Yunnan villages. Villagers believe that exotic forms are more desirable than traditional local vernacular buildings. This architectural form has become a new form of “popular architecture,” coexisting with vernacular architecture in rural areas and resulting in a unique, mixed contemporary rural landscape in China.

Figure 40 European-Style Dwellings and Architectural Details in the Third Wave of Rural Construction

The widespread emergence of “European style” architecture attracted the attention of the state. To mitigate the negative impact of foreign architectural culture on local rural China, the state introduced a series of policies for macro-level control. The most common practice is top-down unified planning and design. This approach curbed the spread of irrational stylistic preferences in some areas, but it also suppressed the vitality of the self-evolution of rural dwellings. Its barrack-style layout eliminated the gradual scale and spatial hierarchy typical of traditional rural settlements, as well as the harmonious relationship between people and their environment (Rapoport, 1969).

The evolution of Chinese vernacular architecture into modern architecture was abrupt. One reason is that the Chinese architectural academic community has paid very little attention to it. Most existing studies on contemporary rural self-built dwellings focus on control, management, and safety. However, there has been little analysis of architectural design, artistic design, or cultural aspects. Fortunately, with the release of the national policy document “Guiding Opinions on Accelerating the

Modernization of Rural Housing and Village Construction" (2021), academic attention to contemporary rural self-built dwellings began to increase after 2020. At this time, research focused more on extracting symbols from vernacular architecture and transplanting them into modern dwellings. These practices, as decorative methods, are understandable, but due to the lack of in-depth cultural and philosophical analysis, they retain only the form of vernacular architecture without its inner essence.

2.4 The Traditional Philosophy of China

In Chinese history, the pre-Qin period (before 221 BCE) was a remarkable era. During this time, the Zhou emperor lost political and cultural authority, resulting in feudal lords ruling independently. In this turbulent context, some knowledgeable individuals, motivated by the desire to save the country and its people, proposed their own theories of governance based on different cultural backgrounds, leading to the phenomenon known as "the contention of a hundred schools of thought." This pluralistic cultural environment formed a system of thought mainly composed of Confucianism, Taoism, Mohism, Legalism, the Yin-Yang School, and others, which became the foundation of early Chinese philosophy (around the 6th century BCE) (Chen, 2023). Among these, Confucian and Taoist philosophies became the main branches of this complex philosophical system and deeply influenced the development of later society, politics, and ethics.

2.4.1 Confucianism

Confucian philosophy originated during the Spring and Autumn and Warring States periods in the 6th century BCE. Its founder was Confucius, and it was later developed by pre-Qin thinkers such as Mencius and Xunzi.

Confucius (Kong Zi) Mencius (Meng Zi) Xun Zi

Figure 41 The Three Sages of Confucianism
Source: Baidu. Baike

As the founder of Confucianism, Confucius continuously refined his philosophical system during his travels among different states and spread his doctrines through his disciples. He advocated rebuilding social order through Ren (仁, benevolence) and Li (礼, ritual propriety). Ren refers to loving others and being compassionate, which he regarded as the highest moral principle for human conduct. At the same time, he proposed regulating social behavior with Li, meaning ritual and ceremonial systems. The system of Li can be regarded as a set of life norms and social rules that help maintain family harmony and national stability (Su, 2007; Xiao, 2005). Ministers must be loyal to their kings, and children must be filial to their parents. Meanwhile, rulers and parents must practice Ren, meaning rulers should love their people, and parents should love their children. The balance between Ren and Li became the core thought of this period. In summary, individuals must cultivate themselves and treat others kindly with a benevolent heart, while also observing ritual laws and propriety in social life to restrain desires and maintain order, thereby achieving social harmony and stability.

Confucian views on nature generally show respect for nature but place greater emphasis on the moral alignment between the way of Heaven and the way of humans (Tang, 2005). Confucianism holds that "Heaven" (天)—referring to nature and the universe—possesses moral intention, and that humans should share spiritual values with Heaven. Therefore, the Confucian understanding of "Harmony between Heaven and Man" is that human morality should follow the will of Heaven, and that spiritual unity between the two is the philosophical pursuit of Confucianism (Wang, 2006). Mencius stated in the *Shang Shu* (《尚书》), "天视自我民视，天听自我民听", meaning that the vision and hearing of Heaven are manifested through those of the people. Mencius believed that if a ruler practiced benevolent governance in accordance with the will of Heaven, he would receive Heaven's protection. Thus, Confucianism's view of "Harmony between Heaven and People" emphasizes the integration of human ethics and the moral will of Heaven. Additionally, the Confucian classic The Doctrine of the Mean (Zhong Yong; 《中庸》) states: "致中和，天地位焉，万物育焉，" meaning that if one achieves a state of balance and harmony, then Heaven and Earth will be in their proper place, and all things will flourish. This concept of balance and harmony serves as a moral guideline for human behavior. One must be just and impartial, neither excessive nor deficient (Yang, 2004). This principle is elevated to the level of self-cultivation, requiring a calm and upright mind. One's emotions—joy, anger, sorrow, and pleasure—should not be excessive. Only by treating people with inner peace can one resonate with Heaven and Earth. From this, it is evident that Confucianism seeks the harmonious coexistence of humans and the universe.

Confucian thought has had a profound influence on Chinese society and culture throughout history. Since the Han dynasty's promotion of "Confucianism as the sole orthodoxy" - a theory proposed by Dong Zhongshu - Confucianism has become the mainstream value system of traditional Chinese culture, shaping national

ethical views and behavioral norms. From the perspective of politics and governance, Confucian thought in this period differed somewhat from pre-Qin Confucianism. During this time, the system of *Li* (ritual propriety) was emphasized, and to a certain extent, it became a tool for rulers to maintain national stability and their own power. Behind this system of *Li* was a clear class hierarchy and order of status, which emphasized that subjects must not defy their rulers, and children must not disobey their parents.

The values that sustained this system of *Li* included deeply internalized beliefs such as filial piety, loyalty, trust, propriety, righteousness, integrity, and a sense of shame. In contemporary Confucianism, the spirit of *Ren* (benevolence), as well as humility and uprightness, remain important principles for Chinese people in in their social interaction.

Confucian ideas are also present in traditional Chinese architecture and urban planning. For example, the layouts of palaces and temples strictly follow hierarchical order and ritual norms, featuring central-axis symmetry and clear spatial sequences (Zhang, 2003). This strict class-based spatial order extends to architectural details such as roof forms, gate types, and decorative elements, which are precisely defined according to social status. Even wealthy merchants were not permitted to use high-level architectural components or structural forms; otherwise, they would be punished for transgression.

2.4.2 Taoism

Taoist philosophy originated in the pre-Qin period with the teaching of Laozi and Zhuangzi, its intellectual background rooted in nature worshipand reflections on social turmoil. In the *Dao De Jing*（*《道德经》*）, Laozi proposed the concept of the "*Dao*" (道), positing it as the origin of all things and the law of the universe. Taoism advocates that the "*Dao* follows nature" (Dao Fa Zi Ran; 道法自然), emphasizing that humanity should align with the natural laws of all things. Based on this view, Laozi further proposed his political philosophy: "governing by non-action" (Wu Wei Er Zhi;无为而治), arguing that rulers should interfere as little as possible and allow society to operate according to natural principles.

Zhuangzi further developed Taoist thought, emphasizing relativism and a spirit of freedom toward life. He believed that individuals should return to simplicity and authenticity by merging with the natural world.

Lao Zi

Zhuang Zi

Figure 42 Laozi and Zhuangzi
Source: Baidu. Baike

The core of Taoist philosophy is "*Wuwei*" (无为), which literally translates to "non-action." This concept, however, does not imply passive inaction. Rather, Taoist "*Wuwei*" refers to acting in accordance with the natural course of things, without unnecessary intervention. As scholar, Joseph Needham once noted: "non-action does not mean doing nothing and keeping silent. Let everything be allowed to do what it naturally does, so that its nature will be satisfied." (as cite in Capra, 2006, p. 42).

When humans cease to "go against the *Dao* of Heaven", all things in nature can function according to their own roles and positions, gradually restoring internal harmony. This attitude toward life is believed to achieve the ideal state of "Harmony between Heaven and Humanity" (Tian Ren He Yi; 天人合一) (Moon, 2015).

Another important concept in Taoist philosophy is "Emptiness" (Kong; 空) or "Nothingness" (Wu; 无). Laozi wrote in the *Dao De Jing*: "Tian Xia Wan Wu Sheng Yu You, You Sheng Yu Wu; 天下万物生于有，有生于无." In Taoism, "Nothingness" (Wu; 无) does not represent a void but rather generative potential from which all things are born. All existence arises from the undivided chaos of "*Wu*" (无). According to Francescato (2022), philosopher Martin Heidegger, while translating the *Dao De Jing*, vividly explained: a wheel functions due to the empty hub; a vessel is useful because of its hollow center; a room is usable because of its inner emptiness. This metaphor originates from the *Dao De Jing*: "三十辐共一毂，当其无，有车之用。埏埴以为器，当其无，有器之用。凿户牖以为室，当其无，有室之用。故有之以为利，无之以为用." It is this "*Wu*" that gives space and objects their value. "*Wu*" also reflects in the practice of self-cultivation. Taoism advocates for mental stillness and clarity, in order to comprehend the *Dao* of Heaven and Earth. In aesthetics, such a tranquil state of mind is seen as the highest aesthetic realm.

Like Confucianism, Taoism also emphasizes the concept of "Harmony

between Heaven and Humanity" (Tian Ren He yi; 天人合一). However, Taoism regards humans as an integral part of nature, believing that humanity and all things in the universe are essentially connected (Tang, 2005; Wang, 2006). Therefore, Taoism opposes the idea of conquering nature through human power and instead promotes equality and coexistence between humans and nature. This is achieved through the harmonious coexistence of the *Dao* of heaven and the Dao of humankind.

Taoist philosophy also proposes the balance of "*Yin*" (阴) and "*Yang*" (阳), and the idea that softness overcomes hardness. This philosophy holds that all things contain inherent opposites and that balance between *Yin* and *Yang* must be maintained to avoid violating the natural laws of the universe.

Taoist philosophy has also influenced traditional Chinese architecture and garden practices, with its core principles being respect for nature and the subtle use of spatial "void." In garden design, for example, the emphasis on emulating nature. The classic text: The Craft of Gardens (Yuan Ye;《*园冶*》) states: "Sui You Ren Zuo Wan Zi Tian Kai; 虽由人作，宛自天开," meaning that although a garden is man-made, its form should appear as if naturally created. This approach, different from Western landscape design, aims to create a tranquil, simple, and natural space to calm the mind and support self-cultivation.

The Taoist idea of the "mutual generation of void and solid" (Xu Shi Xiang Sheng; 虚实相生) is also reflected in architecture. Architectural space is intentionally not meant to be fully occupied. Courtyards and patios are intentionally left as "empty" spaces to provide room for circulation and engagement with nature (Zhou, 2014). The design method of "void and solid interdependence" connects built structures with void spaces through corridors and courtyards, organically integrating physical buildings and void to enrich spatial layering and vitality.

2.4.3 Feng-Shui Theory

Feng Shui, referred to by the ancients as "the art of mountains and waters," embodies the aesthetic understanding of landscape and practical knowledge of dwelling construction accumulated by ancient Chinese people over thousands of years. It ingeniously integrates ritual order with the liveliness of nature into the philosophical system of "Harmony between Heaven and Humanity" (Tian Ren He Yi 天人合一), and provides a set of effective theoretical methods for site selection in natural environments (L. Yang, 2005)

The term "Feng Shui" first appeared during the Jin dynasty (226-420 CE), but Feng Shui-related practices can be traced back to the era of the Three Sovereigns and Five Emperors (L. Yang, 2005). During the pre-Qin period, while Confucianism and Taoism were dominant, Feng Shui was not formally part of either tradition. Nevertheless, its concept of "Harmony between Heaven and Humanity" is intricately related to both philosophies. Simultaneously, the "*Yin-Yang* became the theoretical foundation of Feng Shui. However, it was not until the Jin Dynasty, when Guo Pu wrote *the Book of Burial* (*Zang Shu;《葬书》*), that Feng Shui theory was formally

established.

Guo Pu

Zang Shu 《葬书》

Figure 43 Guopu and *Zang Shu* (*《葬书》*)
Source:
https://baijiahao.baidu.com/s?id=1795118155761471909&wfr=spider&for=pc

One viewpoint holds that the formation of Feng Shui theory is inseparable from the development of Taoist and Confucian philosophy (L. Yang, 2005). Based on the belief that all things possess spirit, Feng Shui unifies the vitality of nature with human inner life force, revealing the life-generating beauty of nature. At the same time, the beauty of mountains and waters reflects human character and wisdom. The landscape is perceived as embodying the virtues of benevolence (*Ren;* 仁) and wisdom, akin to human moral qualities. As Confucius once said in *The Analects* (Lun Yu *《论语》*), "The benevolent love mountains, the wise love water" (Ren Zhe Ai Shan, Zhi Zhe Ai Shui "仁者爱山，智者爱水") (L. Yang, 2005).

Feng Shui theory is complex, drawing on various schools of philosophy and is therefore difficult to define with clarity. However, according to the *Zang Shu*, The ultimate goal and core essence of Feng Shui is learning how to "gather *Qi*" (Ju Qi; 聚气). "*Qi*" (气) is the vital energy that promotes growth and development of all things – the fundamental force that sustains life and regenerates vitality (L. Yang, 2005). *Qi* can be understood as an abstract concept: an invisible yet positive energy existing in the universe and in nature, capable of bringing vitality and good fortune to human beings.

The question of how can Qi be gathered is central to ***Feng Shui***. The Zang Shu provides a guiding description: "气乘风则散，界水则止，古人聚之使不散，行之使有止，故谓之风水。风水之法，得水为上，藏风次之." (Qi Cheng Feng Ze San,

Jie Shui Ze Zhi...), which means that wind is a dispersive force that scatters Qi, while water is a positive force that retains it. The method of Feng Shui is to find ways to gather Qi and prevent it from dissipating. This is the concept of hiding from the wind and obtaining water “Cang Feng De Shui; 藏风得水”.

This principle guided ancient people to proactively adapt to natural conditions, building cities and houses in ways that could acquire Qi. While this section introduces the concept, the specific, method by which Feng Shui conceals wind and gathers Qi will be addressed in Chapter 3 through an analysis of Yikeyin dwellings.

Figure 44 Optimal Location for House and Settlement
Source: L. Yang (2005)

Foreign research on Feng Shui dates back to the mid-19th century. British missionary Eitel (1873) considered Feng Shui a sacred Chinese science of landscape, but argued that its association with religion caused it to degenerate into superstition and inevitably decline. Later, foreign scholars' perspectives shifted. They recognized that Feng Shui links humans and their environment, connecting ancient civilization with modern life. It contains both rational elements and logic, as well as irrational components (Rossbach, 2000). After the beginning of the 21st century, Feng Shui studies abroad began to be applied in practice. Some architects in the United States, the United Kingdom, and Australia started incorporating Feng Shui principles into architectural design (Mak & Ng, 2005).

Domestic research on Feng Shui was largely stagnant before the 1990s because the irrational elements in Feng Shui were often regarded as superstition and not valued by academic circles. It was not until a debate on Feng Shui appeared in the journal New Architecture (新建筑) that Feng Shui began to attract greater attention (L. Yang, 2005). Since then, research on Feng Shui has gradually become more extensive. The most studied area is the application of Feng Shui theory to the analysis of architecture, environment, landscape, and urbanism (Peng et al., 2005; Qi et al., 2005). In addition, research has focused on basic textual annotations of Feng Shui, as well as its philosophical thought and historical origins (Wang & Zhang, 2010; Wen, 2004). After 2020, Feng Shui research has moved beyond theoretical discussion, with many scholars beginning to explore its application in design and creative practice (Gong,

2021). Unfortunately, for Yikeyin vernacular dwellings, research on the Feng Shui theory embedded within them remains superficial—limited to a few introductory remarks—lacking theoretical depth and without relevant practical attempts.

2.4.4 “Harmony between Heaven and People” (天人合一)

The previous discussion on Confucianism, Taoism, and even Feng Shui, highlighted the concept of “Harmony between Heaven and Humanity” (Tian Ren He Yi;天人合一). This concept serves as a foundation of the entire Chinese philosophical system, reflecting the ancient understanding of nature. Therefore, a study of it is indispensable in this research.

The concept of “Harmony between Heaven and Humanity” originated in the Western Zhou period (1046 - 771 BCE) (Zhang, 1985). While it literally, it refers to a harmonious relationship between human beings and “Heaven”, it has deeper philosophical meanings. This concept can be better understood by examining the different implications of “Heaven” (Tian; 天).

“Tian” has three primary levels of meaning: **As a supreme ruler**, it functions as a personified deity that controls all things, a view commonly found in popular belief systems; **As nature,** it refers to the natural world and its laws, a concept central to the Taoist philosophical system; **As morality,** it refers to the highest moral order and ritual propriety, relating to noble ethical norms found mostly in the Confucian philosophical system. (Tang, 2005).

In the Taoist philosophical system, “Harmony between Heaven and Humanity” focuses on the natural level. This perspective holds that humans inherently belong to the natural world and should follow the nature of all things, integrating themselves into it. This approach can be understood as passive but not negative, as individuals follow
the way of Heaven through *Wuwei* (non-action).

In contrast, the Confucianism philosophical system emphasizes the moral level. It holds that people should align with the way of Heaven through internal moral cultivation. Here, individuals are encouraged to take active initiative, constantly improving themselves and cultivating the noble virtues of *Ren* (benevolence) and *Ai* (love) to respond to the will of Heaven. Therefore, Taoism’s “Harmony between Heaven and Humanity” emphasizes the relationship between people and nature, while Confucianism’s version focuses more on the relationship between people and society.

The idea of “Harmony between Heaven and Humanity” in Feng Shui synthesizes both Confucian and Taoist thoughts. Feng Shui can be seen as an approach where people, under the premise of respecting nature, also subjective agency to choose suitable places to live.

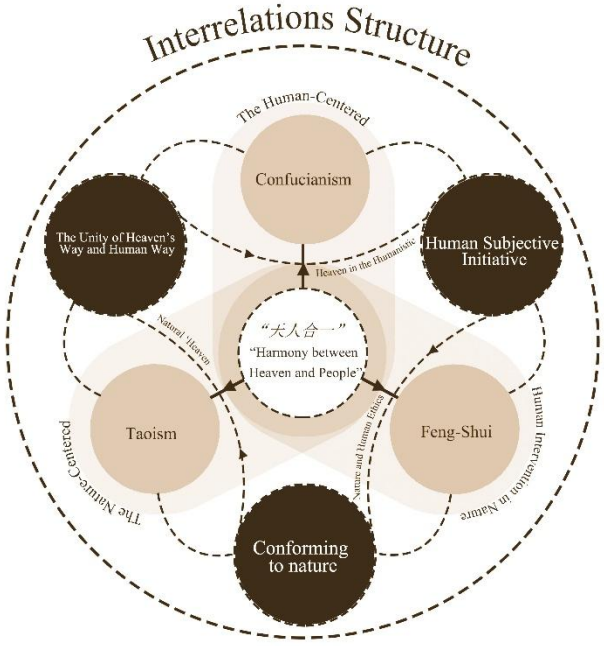


Figure 45 The Interrelations Between of Confucianism, Taoism, Feng-Shui and "天人合一"

The concept of "Harmony between Heaven and Humanity" also influences traditional Chinese architecture and environmental design. Ancient craftsmen often considered the coordination of celestial phenomena, geography, and human habitation needs in their planning and construction, aiming to achieve unity between people and the environment. According to the earlier theoretical text on design in China, *Zhou Li · Kao Gong Ji* (*《周礼・考工记》*), it is recorded: "天有时、地有气、材有美、工有巧。合此四者，然后可以为良." This means that design should follow natural elements such as seasons, climate, and geographical conditions, respect the essential properties and aesthetics of materials, and utilize excellent craftsmanship in creation.

The Hall of Qinian in the Temple of Tiantan in Beijing is a representative building of Confucian "Harmony between Heaven and People." The hall strictly follows axial symmetry and the concept of "round Heaven and square Earth." Its circular roof is intended to communicate with Heaven. The four giant columns supporting the central structure represent the four seasons. The first circle of 12 columns represents the 12 months of the year. The outer circle of 12 eave columns represents the 12 traditional Chinese hours in a day (one hour equals two modern hours). The total of 24 columns represents the 24 solar terms in a year. The Hall of Prayer for Good Harvests is a classic example that perfectly integrates architectural creation with Confucian ritual order, symbolizing harmony between people and the highest ceremonial system.

Figure 46 The Hall of Qinian
Source: Baidu. Baike

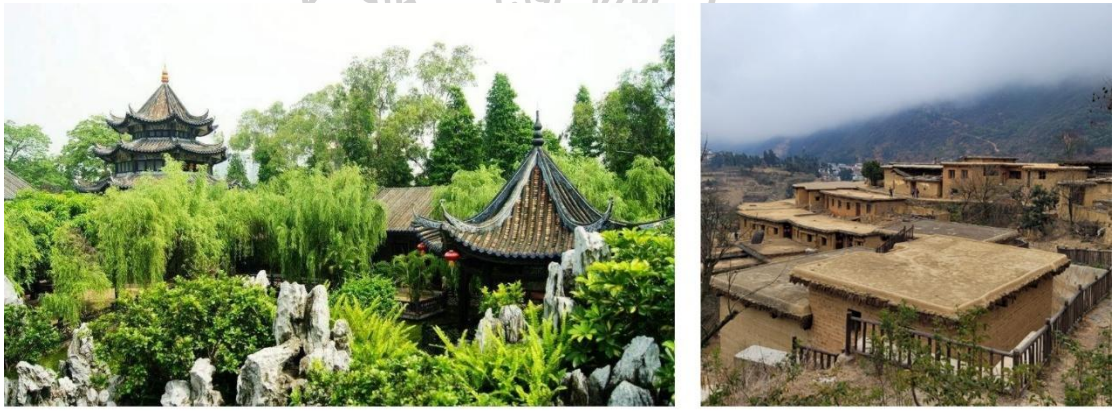


Figure 47 Suzhou Classical Gardens and Yi Ethnic Dwellings
Source: Baidu.com

Examples of “Harmony between Heaven and People” in Taoism are mainly found in gardens and vernacular dwellings. Garden design emphasizes following nature, while vernacular dwellings focus on site-specific construction and the use of local materials, reflecting harmony between people and nature. In Feng Shui, examples of “Harmony between Heaven and People” are even more numerous, encompassing almost all construction activities, such as tombs, palaces, gardens, and vernacular dwellings.

2.5 Participatory Action Research (PAR)

Participatory Action Research (PAR) is a research method that integrates action and research to promote social change. This approach involves the active participation of research subjects and generates new knowledge through a reflective cycle of action and reflection (Baldwin, 2012; Cornish et al., 2023).

The PAR method was first proposed by social psychologist Kurt Lewin in the 1940s. He saw this method as a way to address social problems and believed that participants should actively engage and promote change (Ozanne & Saatcioglu, 2008). Later, Paulo Freire introduced the concept of the "Pedagogy of the Oppressed" in education, arguing that participants could achieve self-awareness and social change through their involvement in research (Kindon et al., 2007). Since the 1980s, attention to this method has grown, and it has been applied in various fields, including development research, public health, community planning, and architectural design (Haj-Bolouri et al., 2016). With the rise of postcolonialism, feminism, and the environmental movement in the 21st century, this interdisciplinary methodological approach has shown distinctive advantages in cross-disciplinary, critical, and reflective studies (Cornish et al., 2023).

The implementation of PAR can be summarized in six stages: establishing a relationship, developing norms, identifying issues, collecting data, analyzing data together, and taking action (Cornish et al., 2023).

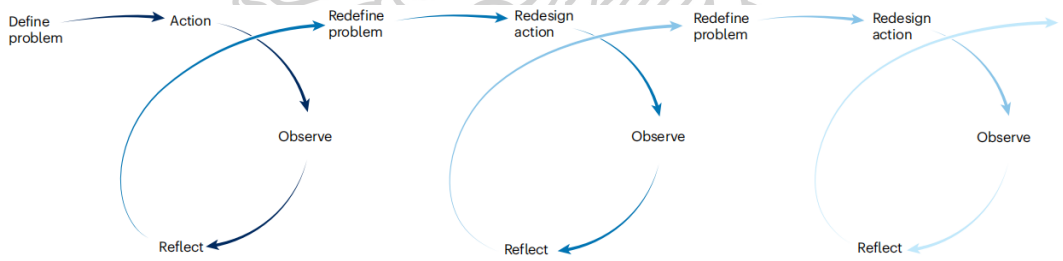


Figure 48 Participatory Action Research Cycles
Source: Cornish et al. (2023)

The PAR research method is highly significant for this study. It serves not only as a research approach but also as a platform for the researcher to understand the needs and perceptions of the local community. The iterative design process implemented through PAR helps achieve greater recognition from the local community and enables a practical understanding of the cognitive gaps among villagers. Additionally, research conducted through PAR generates knowledge and information that belong to both the researchers and the participants, carrying educational value. Community residents gain experience through collaboration, practice, and reflection with the researchers, and this experience can be transformed into new knowledge that continues to influence the local community.

Using the Yikeyin vernacular dwelling as an example, certain knowledge

that only designers or researchers can identify may be shared through collaboration with community residents during the reflection process to achieve the goal of revitalizing Yikeyin. Revitalizing Yikeyin is not simply about designing a house—even with an excellent design, the result may still be only a personal creative work of the designer. True revitalization requires focusing on the "anonymous designers," namely, the villagers themselves. It must support the community in achieving self-identity in a way that has public influence.

2.6 Cases Study

2.6.1 Cases of Integrating New and Old Architecture

When addressing the contrast between traditional and modern architecture, a particular design approach merits attention: "a building within a building." Will Gamble Architects introduced this concept during the design of the Parchment Works House project.

Figure 49 The Parchment Works House
Source: Photographs © Johan Dehlin
https://www.archdaily.com/936947/the-parchment-works-house-will-gamble-architects?ad_medium=gallery

The client's original brief was to renovate a cowshed on the site and clear the adjacent ruins. Will Gamble Architects stated that the cowshed, which the client initially saw as a constraint, could be transformed into a positive asset through effective intervention and use. Therefore, the design team preserved the ruins as much as possible and embedded two lightweight volumes within them, creating a response to both the historical context of the site and the surrounding environment.

"A building within a building" refers to the design method of retaining existing site constraints and integrating them into new construction through effective architectural strategies. This approach offers significant advantages when addressing the relationship between vernacular architecture and modern functional demands. Accordingly, in the co-design process for Yikeyin vernacular dwellings, this method can serve as an important reference.

Another designer who adopted a similar approach is Rinaldo Del Nero. In a project involving the conversion of a barn into a residence, the decision was also made to preserve the existing structure. Del Nero believed that the stone walls of the original building responded well to the local environment. To enrich the spatial experience, timber was chosen as the material for the new addition. This approach established a connection between the new and the old architecture, allowing the new building to become a continuation of the existing one.

Figure 50 Built to Last House Project
Source: Photographs © Marcello Mariana
https://www.archdaily.com/967262/built-to-last-house-rinaldo-del-nero

2.6.2 Cases of Bottom-Up Design

When discussing bottom-up design models, it is difficult not to think of Pritzker Prize laureate Francis Kéré and the Gando Primary School, a project he designed and built with his hometown community. The Gando Primary School was the first completed project of Kéré's career.

Kéré emphasized that his design focus was not on technical or formal

expression, but on design as a social tool—an act rooted in a social process. In the Gando Primary School project, Kéré's contribution was not only to provide an educational space for the community, but also to share his knowledge with local residents through collective construction. As a result, after the project was completed, many residents who had acquired construction skills were able to participate independently in building within their hometown and community. The key to this outcome was the process of building together.

Figure 51 The Gando Primary School Project
Source: https://www.kerearchitecture.com/work/building/gando-primary-school-3

In fact, collective construction is not uncommon worldwide. Among these, the work of Hassan Fathy in Egypt's New Gourna Village is perhaps the most representative and enlightening.

In the New Gourna project, Fathy adopted a "trinity" model of construction organization—villagers, craftsmen, and designer working together—to carry out rural housing construction through a process of simultaneous design and building (Fathy, 2010). Throughout the project, Fathy faced this challenge alone. There were no prior examples to follow, nor any official support, yet he devoted immense effort, navigating difficulties independently. Although the construction of New Gourna Village was never fully completed, it held profound significance. The value of the process far outweighed the final result.

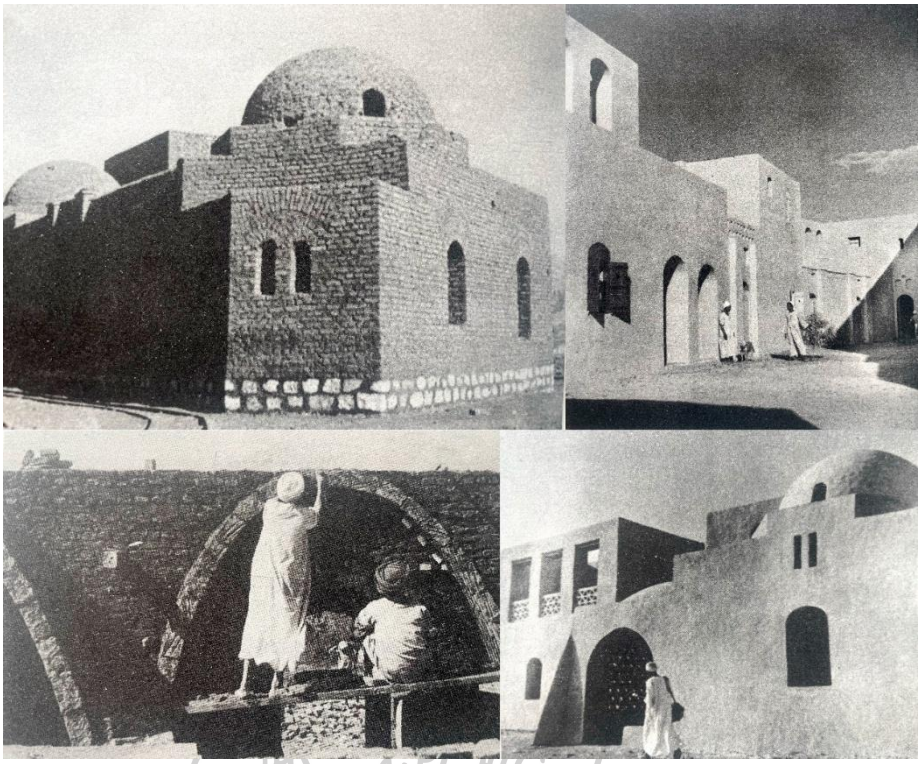


Figure 52 The New Gourna Village Project
Source: Fathy (2010)

2.7 Haiyan Village (Research and Design Site)

2.7.1 Location

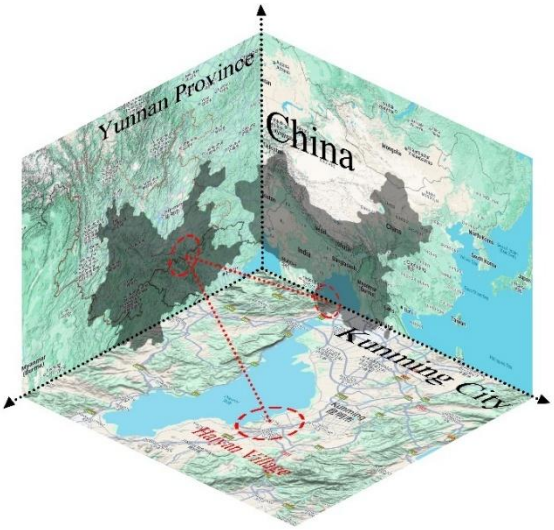


Figure 53 The Location of Haiyan Village

Haiyan Village is located on the eastern side of Dian Lake in Kunming,

Yunnan Province, China. To the west are Guanyin Mountain and Xi Mountain, while Meijia Mountain is to the south. The village is approximately 30 kilometers from the central urban area of Kunming and is situated west of Huanhu East Road, with convenient transportation access. Therefore, the village is classified as a suburban-type rural settlement.

Figure 54 Haiyan Village Satellite Image
Source: Google Earth

2.7.2 Population and Economy

Haiyan Village currently has a permanent population of approximately 2,551 people in about 888 farming households. The main industries are crop cultivation, animal husbandry, and forestry. Due to its proximity to Dian Lake and its abundant natural wetlands and lake landscapes, the share of income from these three traditional industries has declined in recent years as the tourism economy has developed. Historically, Haiyan Village was known for its thriving fishing industry, but in recent years, following the implementation of the Dian Lake Protection Regulations, fishing activities have gradually disappeared. As a result, Haiyan Village is undergoing an industrial transformation, shifting from traditional agriculture to a tourism-based economy.

2.7.3 Historical Development

According to archaeological research, a shell mound site approximately five meters high was excavated on the eastern shore of Haiyan Village, where a small number of pottery fragments were also found. These findings confirm that primitive human activity existed in the area as early as the Neolithic period (Wang, 2021).

During the Ming dynasty, the first settled household appeared in Haiyan Village around 1370. In 1610, a temple was built in the southwest part of the village. As the temple's reputation grew and transportation activities increased, more people began settling nearby. During the Qing dynasty, the government established grain

storage facilities in Haiyan Village. The village experienced growth during the Republican era. In 1938, Kunhua Girls' School relocated to Haiyan Village to avoid wartime conflict. The development of local education during this period attracted many new residents to the area.

2.7.4 Settlement and Architectural Characteristics

According to related studies, Haiyan Village was formed by the merging of two small settlements. The village is located with Meijia Mountain behind it and faces Dian Lake, with houses arranged along the main transportation axis. Because the area is often affected by southwesterly winds, the village is built against the mountain, and Meijia Mountain effectively shields the settlement from direct wind impact (Wang, 2021).

Figure 55 Reconstructed Illustration of Haiyan Village
Source: https://www.clzg.cn/article/87557.html?id=87557

Figure 56 Haiyan Village

The vernacular dwellings in Haiyan Village mainly consist of “Yikeyin” and “half-Yikeyin” types. Since the 1990s, the number of newly built reinforced concrete houses has gradually increased, resulting in a mix of traditional dwellings and modern residences. The village’s early architecture was distributed along a main east-west road. As the population grew, the internal traffic pattern evolved into a grid-like structure resembling the Chinese character “井”. Today, the village road network continues to expand outward and has formed connections with the city’s main roads.

Figure 57 The Road of Haiyan Village

2.8 Summary

This chapter, through literature review and field investigation, has outlined relevant content on Yikeyin and Chinese philosophy. It is evident that within China, and even in academic discourse, research on the philosophical foundations of Yikeyin is extremely limited. Although some studies have indicated that certain features of Yikeyin align with traditional Chinese philosophy, such discussions are generally superficial, presented in an introductory manner, and lack detailed analysis and mapping between architectural elements and specific philosophical concepts.

Based on the literature review, this chapter defines contemporary rural dwellings in China as “self-provided” popular housing. The chapter also reviews the dominant perspective in Chinese architectural academia, which views such housing as a product separated from the natural evolutionary path of vernacular architecture, shaped by social and technological transformation. This type of self-built housing, which prioritizes short-term benefits and lacks macro-level planning and guidance, results from villagers crudely imitating urban architecture. This is also one of the main causes of the homogenization of contemporary rural dwellings in China.

Regarding the issue of homogenization, this study argues that solutions should be sought in history and tradition—specifically, through the revitalization of

the Yikeyin vernacular dwelling. However, the revival of a building type cannot be achieved simply by architects or researchers designing a house with Yikeyin characteristics based on their own professional expertise. As seen in the cases of Francis Kéré and Hassan Fathy, what matters is not the outcome of the practice, but the process itself. In this context, design is not merely an expression of the architect's personal creativity, but a social tool for fostering community identity.

Therefore, this chapter also reviewed the principles of Participatory Action Research (PAR). In participatory design, the most important aspect is not the final outcome, but the efforts made during the process and the shared reflection with the local community. Accordingly, the research must focus on how designers can use the PAR platform to transmit knowledge and generate resonance within the community regarding the Yikeyin vernacular dwelling.

Chapter 3

Methodology

3.1 Introduction

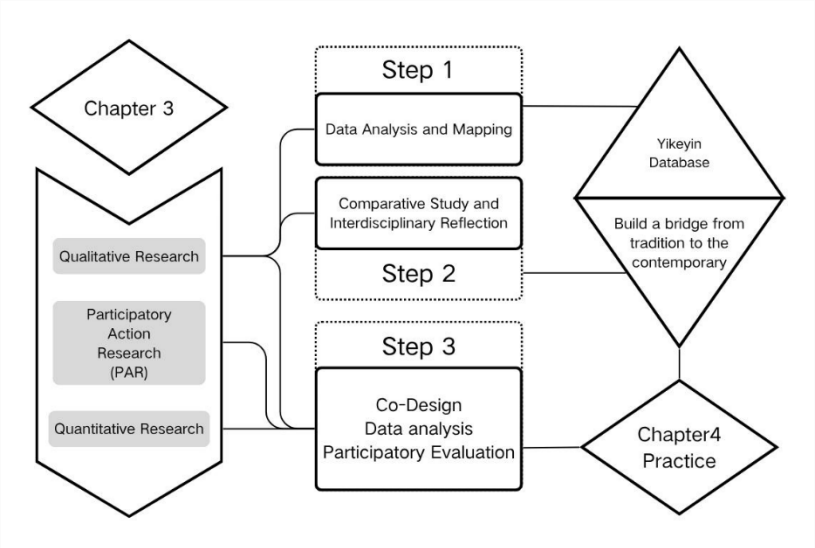


Figure 58 Chapter Structure

Overall, this study adopts qualitative research, quantitative research, and Participatory Action Research (PAR). The qualitative research method is primarily used to analyze and define the tangible and intangible elements—such as philosophical aspects—related to Yikeyin, and to establish a database of Yikeyin components based on these analyses. Quantitative research is used to process the questionnaire data collected during the PAR process.

This study uses literature review, field observation, in-depth interviews, expert interviews, philosophical mapping, interdisciplinary thinking, unstructured observation, questionnaires, and descriptive statistical analysis as specific research methods.

This study is divided into three steps. The first step is to analyze the collected data on Yikeyin through literature review and field research, and to establish a mapping relationship with the philosophical level. This is followed by synthesis and summarization to form a database of Yikeyin. The second step is to conduct a comparative study between Yikeyin and contemporary rural dwellings, introducing theories from other disciplines to reflect on their relationship, and to summarize the possible challenges and key points in the modernization and translation of Yikeyin. The third step is to conduct PAR research, using co-design to test the feasibility of the modernization and translation of Yikeyin. Through questionnaires and in-depth interviews, the process is reflected upon, and new knowledge and values generated

from the study are summarized.

This chapter presents the process of Yikeyin data analysis and philosophical mapping, the comparative study between Yikeyin and contemporary rural dwellings, and the process of interdisciplinary thinking. Since each cycle in the PAR process generates new knowledge and conclusions, the process and outcomes of PAR will be detailed in Chapter Four.

3.2 Research Methodology

3.2.1 Qualitative Research

3.2.1.1 Literature Review

As mentioned in the previous chapter, although some studies on Yikeyin discuss its philosophical and cultural connotations, most remain at a descriptive and introductory level, lacking specific mapping relationships and in-depth analysis. Despite the limited detail in these texts, they still hold some reference value. For example, such studies have provided direction for defining the philosophical framework in this research, allowing for further development based on their foundations. At the same time, some philosophy-related concepts require a preliminary systematic review through literature analysis.

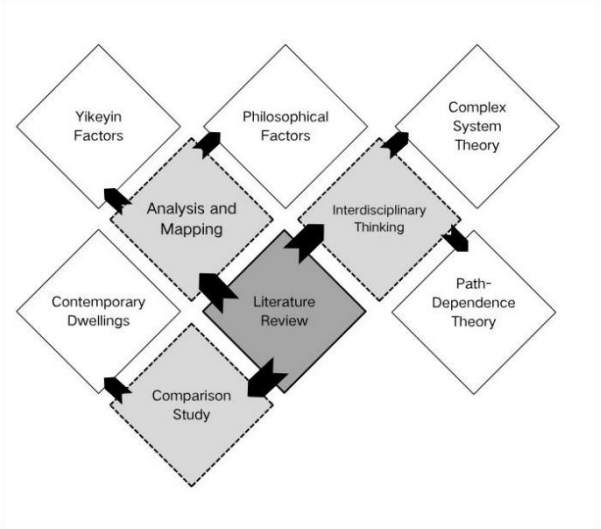


Figure 59 Method of Literature Review

This research uses a literature review to identify the compositional and architectural elements of Yikeyin and to collect and synthesize philosophical ideas related to Taoism, Confucianism, Feng Shui, and the concept of “Harmony between Heaven and Humanity” (天人合一). These elements form the starting point, theoretical foundation, and content source for the philosophical mapping analysis. Additionally, during the interdisciplinary process, theories and research findings from other disciplines have been incorporated through literature review to organize data

and introduce relevant concepts.

The literature primarily draws from studies on the history of Chinese architecture, Taoist and Confucian philosophy, Feng Shui theory, and contemporary rural housing. Sources include Chinese and international journals, master's and doctoral dissertations, and relevant academic monographs. During literature retrieval and selection, priority was given to materials related to the spatial logic, symbolic systems, and construction context of Yikeyin. Special attention was also given to philosophical writings that discuss space, order, and the human view of nature, providing a theoretical foundation for subsequent mapping and interdisciplinary analysis.

3.2.1.2 In-depth Interview

The in-depth interview method was used in all three stages of this study. Interviewees were grouped into four main categories: local villagers (housing users), craftsmen (including traditional artisans and contemporary local construction teams), government officials, and experts (architectural and historical scholars from relevant research institutions).

In the first stage, in-depth interviews were conducted to collect primary information and assess current perceptions related to Yikeyin. Interviews with villagers aimed to understand the current use and maintenance of Yikeyin vernacular dwellings, as well as their understanding of traditional spatial logic, philosophical meaning, and cultural connotation. Interviews with traditional craftsmen focused on gathering basic information about the construction process of Yikeyin and the philosophy-driven intentions embedded in building practices, serving as a foundational source for subsequent philosophical mapping and data analysis. Expert interviews were conducted to confirm the analytical content concerning architectural and philosophical elements and to validate the accuracy of the Yikeyin database.

In the second stage, interviews with villagers and craftsmen continued. The primary objective was to gather data on stakeholders' understanding of contemporary dwellings, motivations for construction behaviors, the evolution from vernacular to modern housing, and their interpretation of the tensions between traditional and modern housing needs. These data formed the basis for interdisciplinary reflection and analysis.

Figure 60 In-depth Interview in the Field Research

Figure 61 In-depth Interview in the Experts Consultations

In the third stage, in-depth interviews were conducted as part of the Participatory Evaluation (PE) process. They were primarily used to interpret and validate the findings from the descriptive statistical analysis of questionnaire data. By re-interviewing survey participants and key stakeholder groups, the researcher gained a better understanding of the underlying intentions and behavioral motivations behind the quantitative results. Additionally, the insights collected in this stage served as input to inform and guide the next round of Co-Design.

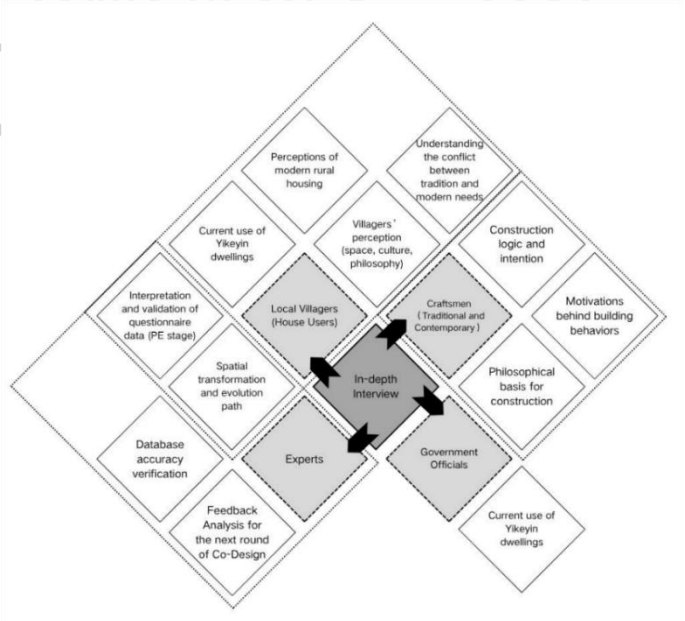


Figure 62 Method of In-depth Interview

3.2.1.3 Observation

Observation methods were employed across all three stages of the research.

In the first and second stages, direct observation was used as part of the fieldwork. Through this method, raw data were collected on both Yikeyin vernacular dwellings and contemporary rural housing. These observational data were later used for mapping analysis, the construction of the Yikeyin database, and studies on the evolution and comparative analysis of contemporary housing forms.

In the third stage, unstructured observation was used. This method was applied during the Co-Design process to gather information on villagers' natural behaviors, preferences, and their understanding and acceptance of traditional philosophical elements. Unstructured observation does not rely on predefined indicators; instead, it emphasizes collecting information through authentic interactions, allowing the researcher to assess the villagers' actual levels of acceptance and identification based on real-time behavioral cues.

3.2.1.4 Philosophical Mapping

The method of philosophical mapping refers to the process of establishing correspondences between the tangible elements of Yikeyin architecture and traditional Chinese philosophical thought to uncover the intangible aspects embedded within the built form. This approach is used to explore the cultural logic and philosophical meanings hidden behind architectural expressions.

In this study, the four philosophical systems and the architectural components of Yikeyin, collected and synthesized during the literature review, serve as the analytical material for the mapping process. Key concepts from these philosophical traditions are systematically aligned with architectural elements such as spatial layout, functional organization, courtyard placement, orientation, building components, and ornamentation. Through this process, the philosophical meaning and cultural depth of Yikeyin's architectural form are revealed.

The mapping analysis can be divided into the following three steps:

Concept Extraction from Texts: Identifying and extracting key concepts and core ideas from philosophical literature. (Chapter 2)

Categorization of Yikeyin Elements: Structuring and classifying the architectural components of Yikeyin. (Chapter 2)

Establishing Correspondences: Drawing on interview data and field observations to interpret how philosophical concepts are embodied in specific architectural forms, and producing a Philosophy-Architecture Mapping Table to be incorporated into the Yikeyin Database. (Chapter 3)

3.2.1.5 Interdisciplinary Thinking

Traditional architectural research often focuses on typology, construction techniques, or aesthetics. However, when addressing the systemic issues involved in the evolution from traditional to contemporary architecture, the discipline of architecture alone is insufficient to provide a comprehensive explanation.

This study takes an interdisciplinary approach, introducing the concept of "default" from complex systems theory, along with mechanisms of "memory" and "forgetting" within systems, to explain the objective patterns underlying architectural evolution. At the same time, the theory of path dependence is used to show how early vernacular construction practices, spatial arrangements, and value-based decision-making became "locked in" over time. This analysis helps explain why certain traditions are sustained and why others are forgotten within specific developmental trajectories.

1) Path Dependence Theory

Path dependence was first proposed in economics to explain the phenomenon in which certain choices persist due to the influence of historical decisions (David, 1985). It was later widely applied in multiple fields (Goldstein et al., 2023). In behavioral science, it describes how long-term habits influence human behavior (Barnes et al., 2004). In sociology, it supports the continuation of social norms through the intergenerational transmission of "collective memory" (Wilson, 2014).

An example can help with understanding. In the process of biological evolution, even when the environment changes greatly and the biological traits have lost the original environment that nurtured and selected them, organisms still cannot escape historical burdens and quickly find new survival paths (Wang, 2022). This is called "lock-in effects."

2) Complex Systems Theory

In complex systems theory, a concept related to path dependence theory is default hierarchy. Holland (1995) stated, "useful general conditions —defaults— are easy to find and establish. The more specific exception rules take progressively longer to find and establish. This suggests that, under credit assignment, agents early on will depend on over-general default rules that serve better than random actions" (p. 60).

Cilliers (2002) further explained the concept of default hierarchy using the memory and forgetting mechanisms of systems. He believed that a system can learn from past experiences, which are accumulated in memory over a long period of adaptive trial-and-error behavior with the environment (defaults). When the system encounters environmental influences or changes, it first tends to draw on existing memories to respond—that is, it responds with default conditions—because existing experiences are more readily accessible. However, when existing experiences are insufficient to address new environmental challenges, the system must enter a new trial-and-error adjustment process, gradually forget old but no longer applicable experiences, reorganize and select new experiences that better adapt to the current environment, and form new memories.

The interdisciplinary approach enables the researcher to better identify the critical challenges and key turning points that must be addressed in the contemporary adaptation of Yikeyin. It clarifies which patterns of evolution are worth preserving and which aspects deserve to be reactivated and reintroduced, thereby informing

subsequent design decisions and value judgments.

3.2.2 Participatory Action Research (PAR) in this Study

This study adopts Participatory Action Research (PAR) as its primary research method, integrating practice and research. PAR emphasizes equal collaboration between the researcher and local stakeholders, focusing on reflection and knowledge co-construction throughout the practice process. Through interaction, feedback, reflection, and action, PAR facilitates the enhancement of cognition and identity.

The greatest significance of PAR lies not only in achieving design outputs but also in its educational value through collective participation. In the process of communicating and cooperating with local villagers, designers or researchers can activate the historical memory and cultural identity of Yikeyin vernacular architecture among community members. In this way, the forgotten philosophical and cultural content becomes more than a cultural symbol; it is re-understood and inherited through villagers' participation and practice, thus achieving the goal of living revitalization of Yikeyin.

PAR in this study is specifically divided into three steps: the first step is Co-Design, the second step is Participatory Evaluation (PE), and the third step is Reflection. These three steps form one complete cycle of PAR. A total of five cycles were carried out in this study.

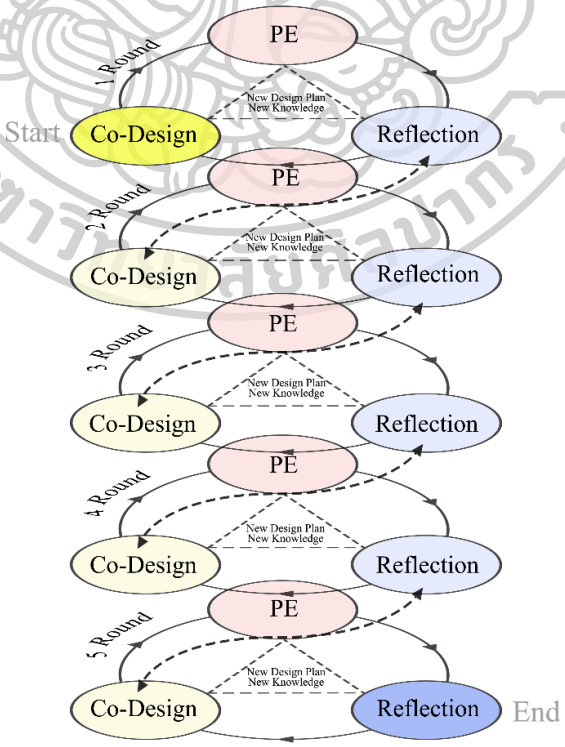


Figure 63 Process of Participatory Action Research (PAR)

3.2.2.1 Co-Design

Co-Design took the form of workshops. Participants included the researcher, local villagers, government officials, scholars from local institutions, and master's students. The roles of each group were clearly defined:

The researcher and local villagers were the primary participants in the co-design process, responsible for proposing spatial concepts and specific needs.

Government officials provided information related to village development, policy support, and basic data.

Scholars from relevant institutions served as design facilitators, offering technical advice and professional judgment during discussions and decision-making.

Throughout the Co-Design process, the researcher consciously maintained a position of equality in communication, avoiding the imposition of personal creative intentions. The researcher primarily acted as a contributor of cultural and professional knowledge, integrating architectural expertise, historical references, and philosophical background into the dialogue. Visual tools such as design modeling and AI-Generated Content (AIGC) simulation were used to facilitate the villagers' understanding and decision-making. It should be noted that AIGC technology was used solely as a tool to help the researcher quickly and effectively grasp the villagers' intentions and decisions regarding form preferences, functional needs, and not a method for generating the final design expression.

A primary goal was to preserve the decision-making autonomy of the villagers, ensuring that their opinions were genuinely reflected in the final design outputs. Concurrently, when villagers expressed idea that were technically unfeasible, the researcher and relevant scholars provided appropriate guidance and support based on their professional knowledge and practical experience.

Figure 64 The Process of Co-Design

3.2.2.2 Participatory Evaluation

Participatory Evaluation refers to the assessment of design proposals produced during the current round of Co-Design. In addition to the local villagers who directly participated in the design process, the evaluation includes questionnaire surveys conducted among villagers who did not participate in the design. The collected data are analyzed using descriptive statistical methods.

In addition, based on experience from the Co-Design process, the researcher will organize a workshop with scholars from local research institutions to discuss the effectiveness of the design proposals, the extent to which philosophical and cultural content is reflected in the schemes, whether the core spirit of Yikeyin is embodied, which aspects were lacking in expression, and potential directions for supplementation.

3.2.2.3 Reflection

The reflection phase occurs after each round of Co-Design and Participatory Evaluation (PE). Its purpose is to systematically review and analyze data collected through unstructured observation during the Co-Design process and feedback obtained from questionnaire surveys during the PE process.

The first step of the reflection process is to read and interpret the questionnaire data after conducting descriptive statistical analysis to identify trends and preferences regarding villagers' acceptance of the design proposal, their level of understanding, and their functional needs. This information is then combined with data gathered by the researcher through unstructured observation during the Co-Design process, including villagers' behaviors, attitudes, and levels of comprehension, to summarize the outcomes of the current PAR cycle.

Next, the researcher conducts in-depth interviews with selected questionnaire participants to verify whether the underlying motivations and intentions behind the quantitative results align with the summary, ensuring accurate data interpretation.

The third step involves organizing a workshop with scholars from local research institutions to discuss problems identified in the design proposal, the extent to which philosophical and cultural content is expressed, and the interpretation and summary of the data. This discussion helps clarify the adjustments and improvements needed for the next round of Co-Design.

It is essential to emphasize that the reflection phase is not only a summary of the previous round and a guide for the next; it also serves as a new source of knowledge production within this study and constitutes one of its final research outcomes.

Figure 65 The Processes of Participatory Evaluation and Reflection

3.2.3 Quantitative Research

The quantitative research in this study primarily focuses on data processing during the PE phase. In the PE process, data were first collected through questionnaires and then analyzed using descriptive statistical methods.

The study used a five-point Likert scale (1-5) to measure villagers' satisfaction with the design proposals and their willingness to adopt them. A score of 1 represents the lowest level of satisfaction or willingness, while 5 represents the highest. Confidence intervals were used to calculate and assess the reliability of the mean values.

The evaluation questions are as follows:

Q1: Do you think this design is similar to Yikeyin? (Recognizability)

Q2: Overall, are you satisfied with the proposal?

Q3: Are you satisfied with the construction cost?

Q4: Are you satisfied with the architectural decoration?

Q5: Are you satisfied with the functionality of the building?

Q6: Are you satisfied with the spatial layout?

Q7: Are you satisfied with the material selection?

Q8: If you were the client for this proposal, would you adopt it?

Q9: If other villagers wanted to build a house, would you recommend this proposal to them?

After completing data collection and descriptive statistical analysis, the researcher will conduct a round of in-depth interviews, combining observations from the

Co-Design process, to verify the accuracy of the data and understand the reasons behind the villagers' specific evaluations.

3.3 Yikeyin Data Analysis and Philosophical Mapping

3.3.1 Type Analysis

According to the research data, the traditional layout of Yikeyin, as mentioned in Chapter 2, belongs to the Han-style courtyard type. The main hall has three bays, with two or four side rooms on each side, and the Daozuo is placed directly opposite the main hall. All units are two stories, and each architectural unit is arranged around a courtyard. This complete layout is the architectural prototype of Yikeyin vernacular dwellings.

Table 2 The Basic Elements Analysis of Yikeyin Type

Type	Yikeyin	Half-Yikeyin	"I" shaped building unit	Complex Type
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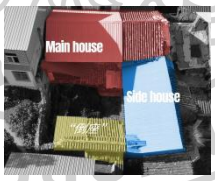
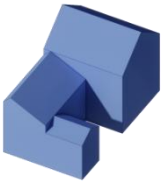
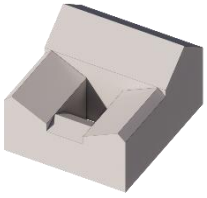
Analysis				
Description	Excluding the "Daozuo", the combined layout of the main house and ear rooms complete Yikeyin resembles the letter "U"	a Half-Yikeyin resembles the letter "L"	a building without ear rooms resembles the letter "I"	These three forms combine to create building complexes.

Table 3 The Summary of Basic Elements Yikeyin Type

Plan Form	Description	Features	Example Image
"I" Shape	This layout features a linear arrangement where a central main house in flanked on either side by side rooms	Simple, symmetrical, suitable for narrow plots	
"L" Shape (Half-Yikeyin)	This layout consists of an L-shaped configuration where the main house and side rooms are positioned perpendicularly to each other	Utilizes corner plots, suitable for irregular land	
"U" Shape (Yikeyin)	This layout forms a U-shaped configuration that encloses a central courtyard. The main house is positioned at the base of the 'U', flanked by side rooms that form the two arms	Centralized lighting and ventilation, suitable for larger plots	

In fact, due to limitations such as family circumstances, street layout, economic conditions, terrain, and other objective factors, Yikeyin has developed multiple variations. The most common are the half-Yikeyin, which omits one side of the side rooms, and the incomplete Yikeyin, which omits the Daozuo. As family populations grow, living functions expand, and the younger generation establishes their own families and requires separate spaces, the originally independent Yikeyin space begins to expand and connect with additional building units. In this way, while maintaining a certain degree of traditional spatial logic, a more complex courtyard layout is formed. A common group composition is the “U+L” type, where the shapes of the letters “U” and “L” represent the enclosed Yikeyin layout and the semi-enclosed half-Yikeyin layout, respectively. In addition, there are building units in the shape of “I” connected to the “U” layout, where “I” represents a long, strip-shaped building composed of three rooms. Therefore, at the village level, Yikeyin buildings not only appear independently but also form architectural groups with other units, such as “U+L,” “U+U,” “U+I,” “L+L,” and “U+L+I” type complex group combinations.

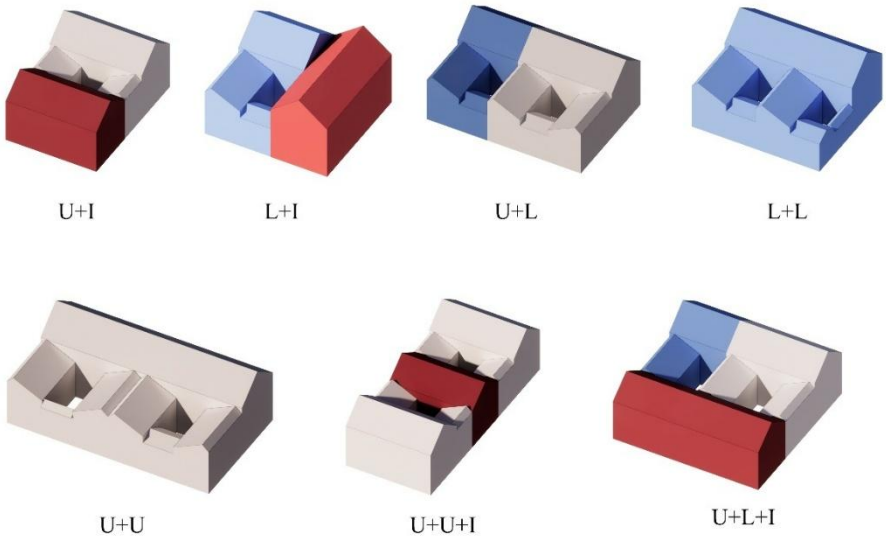


Figure 66 YiKeYin Types Configuration

Regarding building types, the various types derived from the Yikeyin prototype do not contain significant philosophical or cultural content. These derived types are direct responses to geographical conditions, economic factors, and other objective circumstances.

3.3.2 Layout and Functions Analysis and Philosophical Mapping

Here, we primarily analyze the floor plan of the complete Yikeyin as an architectural prototype.

The complete Yikeyin strictly follows bilateral symmetry along the central axis. In Confucian philosophy, this layout reflects the Confucian ideas of “impartiality” and “centrality with correctness.” Confucianism holds that centrality and correctness conform to the ritual system and represent order and balance. For example, in the layout of the Forbidden City in Beijing, the overall plan strictly follows central axis symmetry, with the three highest-status halls placed on the central axis (Zhang, 2003). The layout of Yikeyin is similar, placing the Daozuo and the main hall along the central axis to emphasize their dominant position in the space.

Table 4 Yikeyin Plan and Analysis

Type	Three-Room Four-Ear Yikeyin	Three-Room Two-Ear Yikeyin	Three-Room Two-Ear Half-Yikeyin	“I”Shape house

Figure 67 The Building is Symmetrically Arranged Along the Central Axis.

Additionally, in the concept of “Harmony between Heaven and People,” there is a straightforward cosmological view of nature. The ancients believed that “Heaven is round and Earth is square.” Heaven is like a dome, round in shape, while the Earth is square and stable. Therefore, the ancients regarded square and regular floor layouts as an architectural response to the idea of “round Heaven and square Earth” (Tian Yuan Di Fang; 天圆地方). Since architecture is built on the earth, its plan should be square-based to demonstrate alignment with Heaven and Earth.

In this layout, the courtyard is at the core of the Yikeyin design. Functionally, the courtyard provides lighting, ventilation, circulation, and spatial organization. Philosophically, it reflects the Taoist spatial concept of “mutual generation between emptiness and solidity.” Taoism emphasizes that space should preserve “emptiness” to accommodate change, circulate Qi, and generate tranquility. In Yikeyin, the courtyard represents emptiness, while the rooms surrounding it represent solidity. Solidity contains emptiness, and emptiness reveals solidity, forming a complementary and interdependent spatial order.

Taoism also advocates the combination of Yin and Yang and the balance of movement and stillness. The main structure of the building consists mostly of enclosed solid walls, representing “Yin,” while the courtyard is open and transparent, representing “Yang.” These two properties of Yin and Yang achieve coordination and integration through the courtyard space in Yikeyin. People live in the dwelling, experiencing the contrast between inside and outside, and through daily movement and living, they achieve contact and dialogue with nature, realizing a state of life of “staying centered and observing all things in silence.” This is the ideal living environment in Taoism: within the limited architectural entity, the flow of natural Qi is preserved, making the living space full of change without losing order. The courtyard is not only a spatial medium in the physical sense but also a spiritual field in the philosophical sense. It is a bridge connecting heaven and earth, people and nature.

In Confucian philosophy, “Li” emphasizes strict hierarchical divisions. Children must obey their elders, and ministers must obey the emperor. Only in this way can society function in an orderly and stable manner. Assigning personified meaning to architecture is common in Chinese history. The spatial layout in Yikeyin also features strict hierarchical divisions. In Yikeyin, the spaces along the central axis hold the highest status. The courtyard is at the center, serving as the spatial core. Next are the main hall and the Daozuo.

The spatial layout of a Yikeyin is strictly governed by a Confucian hierarchy, with each room's importance and function clearly defined.

Room Hierarchy: The order of importance is as follows:

The central room on the first floor holds the highest importance. It functions as the living room, representing the entire family and serving as the center of daily activities.

The central room on the second floor is next, dedicated to ancestral worship.

The left room on the first floor is designated for the family elder.

The right room on the first floor is for the eldest son. This placement reflects the Confucian emphasis on primogeniture, where the eldest son holds a higher status than younger siblings. **Subsequent rooms** are assigned to other family members, such as the second son (second floor, left) and the eldest daughter or third son (second floor, right).

Orientation Hierarchy: This hierarchy also extends to orientation. According to the Zhao Mu system (Zhao Mu Zhi Zhi; 昭穆之制), the left side symbolizes the male and holds a higher status than the right, which symbolizes the female. Consequently, in a Yikeyin, the eldest daughter is restricted from living in rooms on the left side, occupying only rooms on the right (L. F. Yang, 2005).

The spatial distribution is typically as follows:

Side Rooms:

Left Side Room: The first floor contains the kitchen and livestock room, while the second floor serves as a bedroom. **Right Side Room:** The first floor is used as a bedroom or for crop storage, while the second floor is also a bedroom.

Daozuo (Front Building)

First Floor: Serves as the entrance hall.

Second Floor: Functions as a storage room for tools and daily items.

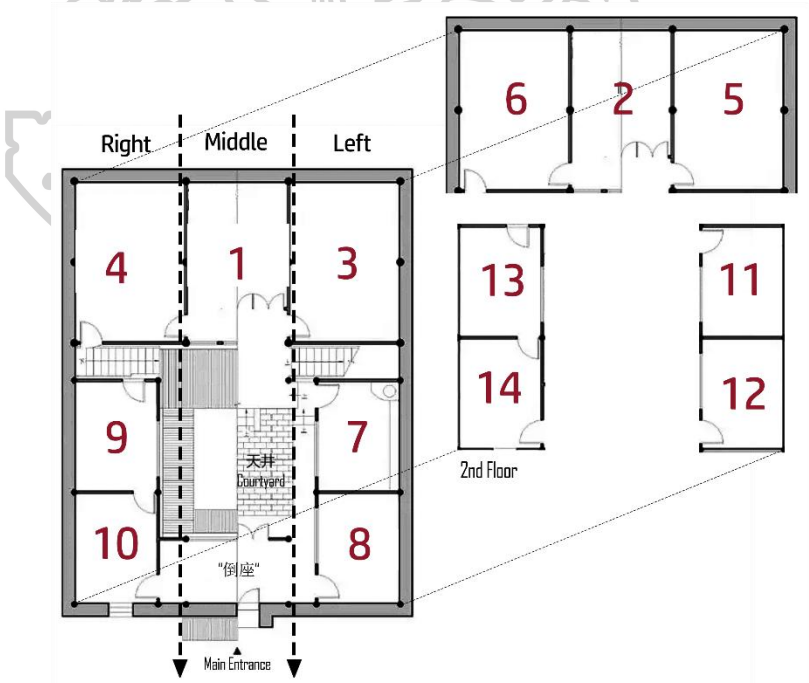


Figure 68 The Hierarchy of Functional Spaces

The layout of Yikeyin is also influenced by local culture. According to the

saying “Prosperity of the Six Livestock” (六畜兴旺) (Guan, 1985), livestock is not only the personal property of the homeowner but also symbolizes the prosperity and flourishing of a family. Therefore, the livestock room is second only to the kitchen in importance. Unlike contemporary houses, the status of the livestock room is much higher than that of the toilet. People prefer to set up a livestock room rather than a toilet. Toilets are usually not included in the spatial layout of Yikeyin. This was explained in Chapter 2 and will not be repeated here.

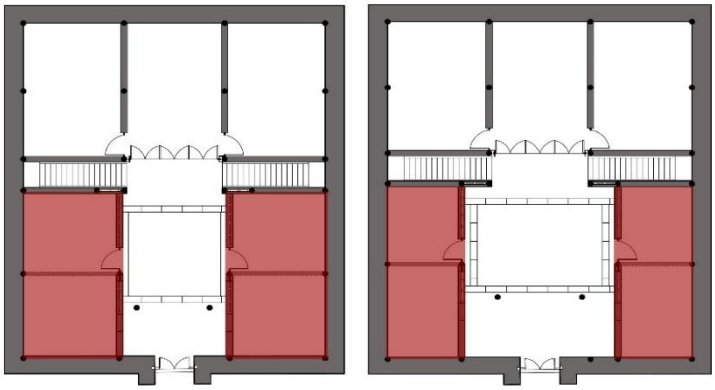


Figure 69 The Side room shapes of “曰” and “日”

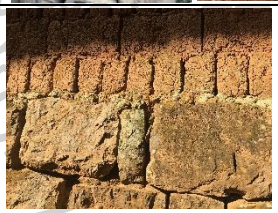
The influence of local culture on spatial layout is also evident in the size of side rooms. In some areas, the depth of a side room is usually greater than its width, creating a “曰” shape rather than a “日” shape. This is because people believe the “日”-shaped room outline resembles a coffin, which is considered an ominous sign. Therefore, they prefer the “曰”-shaped room proportion to avoid bad luck (L. F. Yang, 2005).

3.3.3 Materials Analysis

The main materials used in Yikeyin vernacular dwellings are traditional ones such as earth, wood, brick, and stone. Earth is used for wall construction, wood for structural framing, brick for gates and eaves, and stone for foundations and wall bases.

Table 5 The Materials of Yikeyin

No.	Category	Description		Image Example
1.	Traditional	Earth Wall: An enclosing structure for Yikeyin building exteriors.	Rammed earth	

			Adobe brick masonry	
2.	Traditional	Wood: Internal wooden frame structure and components like doors, windows, and partition walls.		
3.	Traditional	Gray Brick: Used for walls, flooring, main entrances, and decorations.		
4.	Traditional	Clay Tiles: Used for roof tiles and eave tiles.		
5.	Traditional	Stone: Used for building foundations and wall bases.		
6.	Traditional and Local	Snail Shells: Enhance cohesion and durability of rammed earth walls (also straw).		

Zhou (2014) argues that using natural materials reflects the Taoist principles of “returning to simplicity” and “following nature.” Additionally, selecting and creating with materials from nature embodies the concept of “Harmony between Heaven and People.” In her study, she matches building materials to the Five Elements theory (metal, wood, water, fire, earth): earth corresponds to rammed earth walls, wood to structural frameworks, and metal to stone used for foundations and

wall bases.

It is undeniable that, compared with modern reinforced concrete, traditional materials are closer to nature in texture, smell, and form. They naturally bring people closer to nature and reflect the Taoist aesthetic of tranquility. However, when analyzing this philosophically, the motivation behind material selection must be considered. In traditional societies where technology and industry were not developed, builders often relied on local materials, sourcing from nature what could be processed. In other words, the choice of materials was more a practical constraint and a result of technical conditions than an intentional response to a philosophical concept.

The author believes that while Taoist ideas such as “returning to simplicity” and “following nature” can explain this construction phenomenon, they are more of an interpretative projection—philosophical meanings assigned by later generations based on observed architectural phenomena. This kind of “retrospective association” cannot prove that the original builders had a clear philosophical awareness when choosing materials.

3.3.4 Orientation Analysis and Philosophical Mapping

In common views, it is generally believed that the ideal orientation of a dwelling is to sit north and face south. This is because in China, which is located in the northern hemisphere, houses facing south receive more sunlight. However, in reality, the choice of building orientation involves more factors. In addition to natural conditions such as terrain and topography, Feng Shui is the core driver behind orientation selection. Some studies clearly point out that the orientation of Yikeyin is not fixed but is determined by the direction of mountains and water (Pan, 2014).

In Feng Shui, an ideal orientation features a layout with its back to the mountain and its front facing the water. Water retains Qi, while mountains block wind, achieving the effect of “hiding wind and gathering Qi.” This view was also confirmed in interviews with craftsmen, who provided specific details. When choosing a mountain, the location should be backed by a mountain peak, as only the protruding part of the mountain can block the wind. If the site is backed by the saddle of the mountain, it cannot achieve the goal of “backing the mountain and hiding wind,” because wind will be blown away along the saddle. At the same time, if the building faces a mountain, it should face the saddle, so that Qi can flow toward the building along the depression, like water.

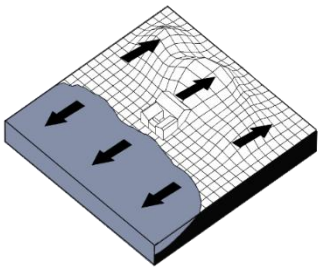


Figure 70 Backed by Mountains and Facing Water

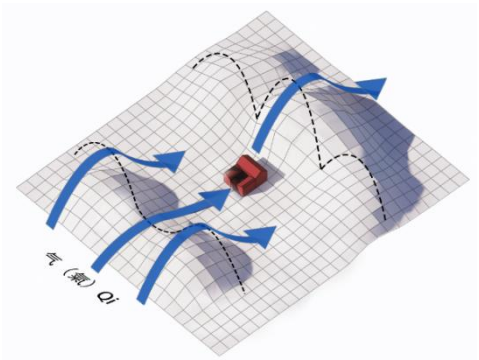


Figure 71 Facing the Saddle and Be Backed by Peak

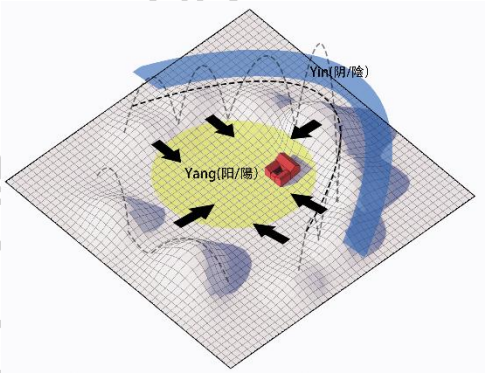


Figure 72 All Things Carry Yin on Their Backs and Embrace Yang in Their Fronts

Taoist philosophy emphasizes the concept of "All things carry *Yin* on their backs and embrace *Yang* in their fronts". This translates to the shaded side and facing the sunny side to align with the natural operation of Heaven and Earth. In architecture, this means a building is placed in the *Yang* side (sunny), with back against the *Yin* side (shaded), and its front facing an open, sunlit area.

"Carry *Yin* on the back" typically means backing onto a mountain, which blocks the cold wind and form a barrier that brings safety and stability. "Embracing *Yang* in the front" means the building faces a sunny area with sufficient sunlight and converging airflow, ensuring the interior receives enough light and ventilation.

This pattern of "carrying *Yin* and embracing *Yang*" not only aligns with the basic Feng Shui principle of "balance between *Yin* and *Yang*" but also demonstrates an adaption to local conditions. It follows the form of mountains and water without destroying the natural landscape, reflecting the Taoist view of "following the natural trend."

According to in-depth interviews, Feng Shui principles emphasize that a house should not directly face the direction of the wind. In Yunnan, the wind primarily comes from the southwest, so the orientation should avoid directly facing southwest. According to Liu (1996), because Yunnan is located at a low latitude near

the equator, facing south does not necessarily provide more sunlight. Therefore, the traditional orientation of Yikeyin dwellings is mostly southeast or east.

Confucian philosophy emphasizes hierarchical order. Therefore, the main hall, as the spatial core, usually shares the same orientation as the entire building to highlight its status, while the side rooms on both sides face the courtyard, creating a contrast and support for the main hall.

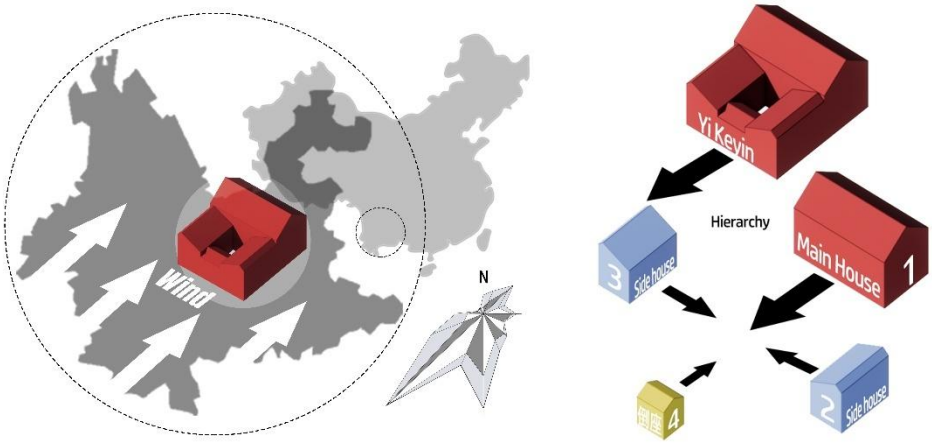


Figure 73 Avoidance of the Southwest Orientation and Reflection of Spatial Hierarchy

3.3.5 Main Entrance Analysis and Philosophical Mapping

The main gate also holds a high status in vernacular dwellings, representing the owner's "face" (Zheng, 2015), and carries rich philosophical and symbolic meanings.

From the Feng Shui perspective, craftsmen stated that if there is a river or stream in front of the house, the main gate should face the direction from which the water comes, and it is considered taboo for the gate to face the direction where the water flows away. This is because "water" gathers and merges Qi. If the main gate faces the direction where water leaves, the gathered Qi is likely to flow away with the water, thus affecting the fortune of the dwelling.

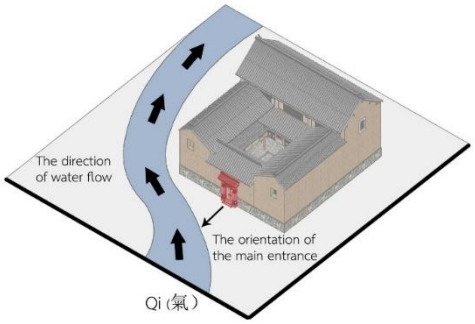


Figure 74 The Main Gate Facing the Direction of Incoming Water Flow

The main gate serves as the entrance for both Qi and wind. In Feng Shui, wind is considered negative energy; it can blow away Qi and affect the health of the occupants. The living room in the main hall represents the entire family, so the main gate should not face the living room directly. To address this, the main gate of Yikeyin is often set at an angle or offset from the central axis. However, this method contradicts the Confucian principle of "centrality and correctness." Confucianism maintains that the main gate should be placed exactly on the central axis to demonstrate order and stability. Therefore, when the main gate is set on the central axis, a screen wall or a second inner gate is often installed inside the entrance hall to prevent wind from directly entering the main hall.

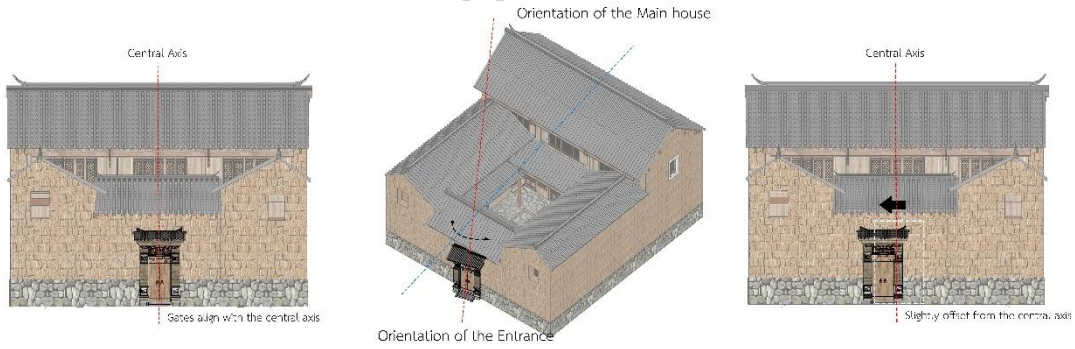


Figure 75 Main Gate Setting Under Different Philosophical Perspectives

Taoist philosophy emphasizes "balance between *Yin* and *Yang*." As Sunlight represents "*Yang*,", the main gate should face a direction with sufficient sunlight. For the central Yunnan region, southeast-facing gates are considered auspicious in Feng Shui diagrams because they receive more sunlight. Indeed, some artisan interviewed during the field survey stated that if the main gate cannot face southeast, they would suggest the owner install a second gate in that direction.

Feng Shui theory also references the Taoist saying "Purple *Qi* comes from the East," (zi qi dong lai; 紫气东来) a phrase symbolizing the arrival of auspicious energy from the east. This further strengthens the auspicious meaning of the East and Southeast directions in site planning.

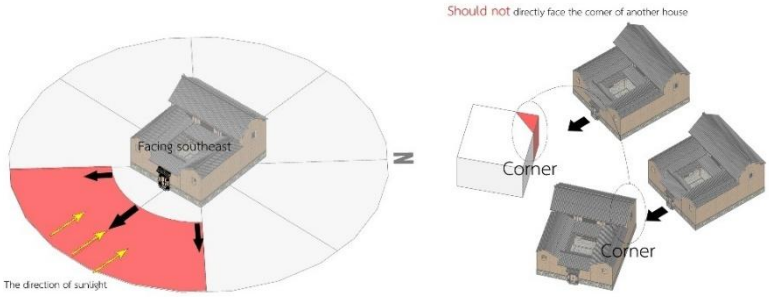


Figure 76 The Orientation of the Main Gate in Taoist Philosophy and Folk Culture

Local folk culture also reflects the importance placed on the main gate. For example, the main gate should not directly face the corner of another building. Because sharp corners are considered to carry “Sha Qi” (evil energy), such an orientation is believed to negatively affect the fortune of the dwelling.

However, field research also revealed that craftsmen and homeowners often find it difficult to subjectively determine the direction of the main gate. Since the 1980s, most housing plots have been allocated by the government in a unified manner, requiring gates to face the street. Therefore, the gradual decline of Feng Shui beliefs is understandable.

Figure 77 A Secondary Gate Opened at the Southeast Corner and a Main Entrance Facing the Street

3.3.6 Roof Analysis and Philosophical Mapping

Generally, there are two types of roof forms in the Yikeyin architectural layout. One is the long-short slope on the side rooms, and the other is the dual long-slope on the side rooms. The main hall is always in the form of a dual long-slope.

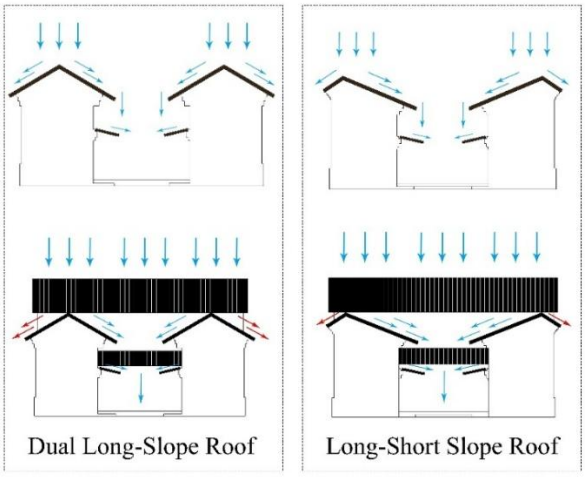


Figure 78 Different Roof Forms and Drainage

During the research process, it was found that of the two forms, the first type is the most common and is considered a typical feature of Yikeyin architecture. Functionally, the long slope in the first type faces the courtyard, while the short slope faces the outside of the house. This arrangement directs rainwater into the courtyard, which may cause water accumulation. In comparison, the dual long-slope form appears more reasonable functionally. However, people still generally prefer the first type. The main reason for this preference comes from the philosophical concepts in Feng Shui.

As mentioned above, the treatment of water in architecture is very important. Water represents “Qi,” and the design of the long-short slope allows the building to collect more water, thereby gathering more “Qi.”

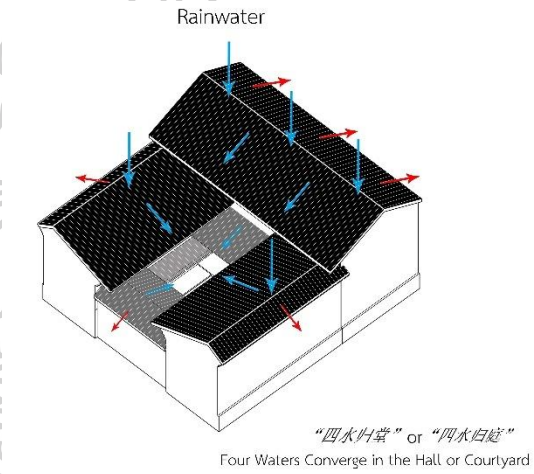


Figure 79 Four Waters Converge in the Courtyard

The courtyard holds a high status in the dwelling. Combined with the roof's drainage method, a concept was formed—craftsmen call it “Four Waters Converge in the Courtyard” (Si Shui Gui Ting; 四水归庭). This means that in Yikeyin, rainwater from four directions gathers in the courtyard along the roof. It symbolizes the family's prosperity and the arrival of wealth.

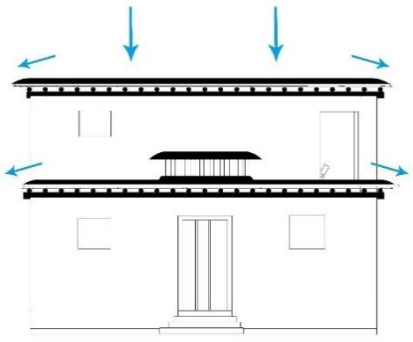


Figure 80 Flat Roof of Rammed-Earth dwellings of Yi People

It is worth noting that the local Yi people's rammed-earth dwellings have flat roofs. Therefore, the concept of “four waters converge in the courtyard” originates from the architectural tradition of the Han people.

3.3.7 Doors and Windows Analysis

This study collected data on the use of door and window components in Yikeyin through field observation and learned about the symbolic meanings of decorative elements on doors and windows through in-depth interviews with local craftsmen. The findings show that the decorative patterns do not involve much philosophical content; their forms and meanings mostly originate from Han cultural traditions.

According to the craftsmen, these specific decorative motifs are primarily passed down through master-apprentice transmission. Regarding their origin, these patterns were introduced to central Yunnan during the Ming and Qing dynasties with the migration of Han people. Through long-term practice and dissemination, they gradually became a construction paradigm—whenever decoration is required, these specific patterns are used. The decorative meanings mainly express people's longing and hope for a better life. Traditional auspicious patterns such as blessings, longevity, fortune, offspring, and good health often appear on door panels, window lattices, and door lintels. These motifs form a visual language and also reflect the continuation of cultural identity and the emotional projection of local residents during the building process.

The database of door and window elements, along with their symbolic meanings, will be presented in the appendix.

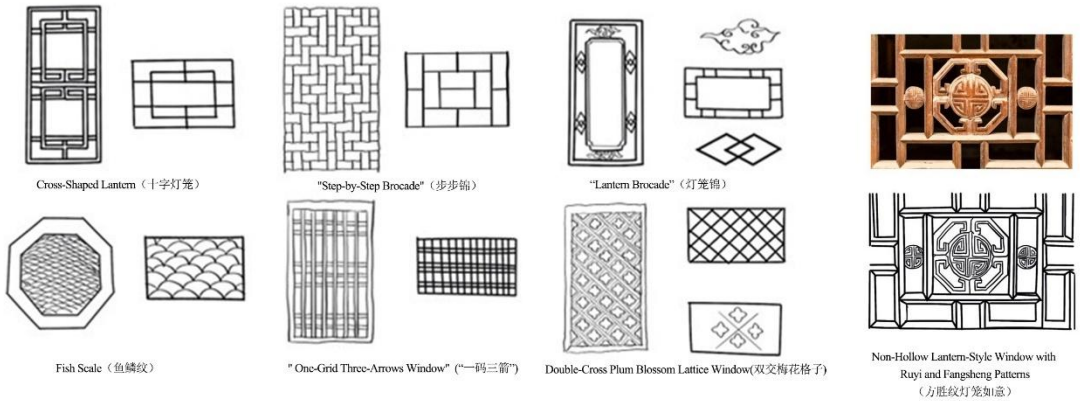


Figure 81 Windows Pattern

It is worth noting that during the research process, it was found that in existing Yikeyin dwellings, components such as screen doors or screen walls are already difficult to observe. Especially after reviewing recently published related

literature, it was found that the floor plans included in these studies generally did not indicate such components. Therefore, the author further reviewed earlier literature and found that descriptive studies from the last century did record screen doors as components in Yikeyin architecture (Liu, 1956; Liu, 1944).

According to a villager's recollection during the in-depth interview, there was originally a screen door in his house decorated with a Double-Cross Plum Blossom Lattice. It was later removed to allow easier access for an electric bike.

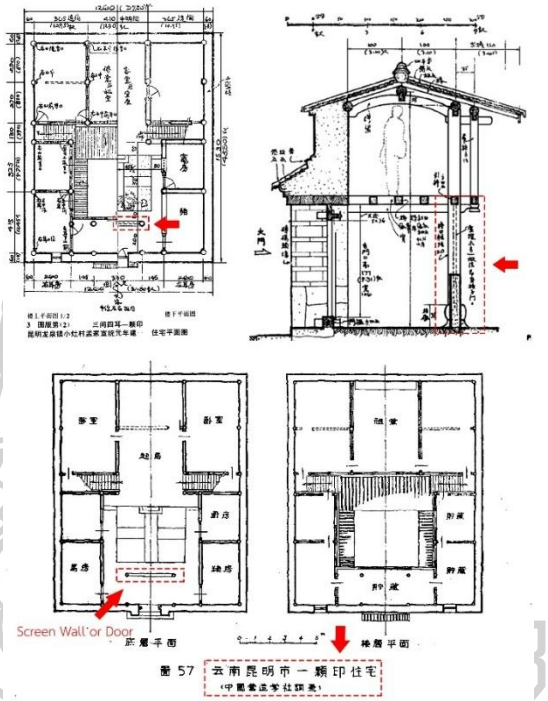


Figure 82 The Screen Wall or Door in the Yikeyin
Source: Liu, 1956; Liu, 1944

Figure 83 Reconstruction Drawing of Screen Doors or Screen Wall

3.3.8 Colors Analysis

In the field research and color analysis, no evidence was found that the choice of color involved philosophy or culture. The essential colors are simply the natural characteristics of the raw materials. However, according to interviews, people in the community generally rely on visual perception to recognize Yikeyin architecture. Therefore, analyzing color and applying it to enhance design recognizability is especially necessary.

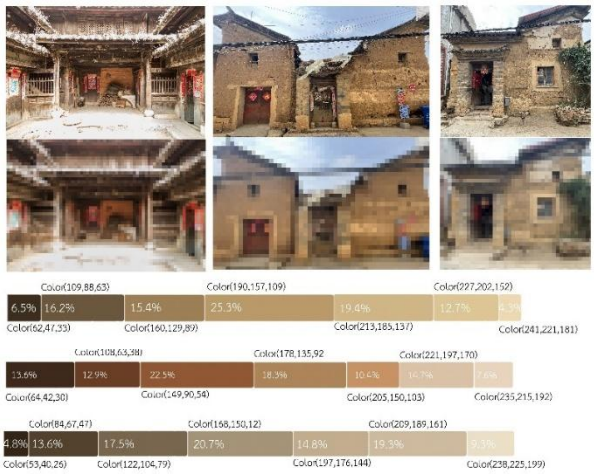


Figure 84 Colors Analysis

3.4 Yikeyin Database

Based on the literature review, direct observation during field research, in-depth interviews, subsequent data analysis, and philosophical mapping, the information was integrated to produce a Yikeyin database.

The Yikeyin database is presented in the appendix.

3.5 Contemporary Dwellings Analysis

The purpose of analyzing contemporary dwellings is to identify what has been lost during the evolution of Yikeyin vernacular dwellings into their present forms, as these lost elements are precisely what should be revived in their modern transformation. This analysis also aims to understand why the rural system abandoned these elements—an issue that will become a key consideration in the subsequent practical design process.

The analysis of contemporary dwellings primarily adopts comparative analysis and incorporates insights from complex systems theory and path dependence theory to interpret related architectural phenomena. Comparative analysis is carried

out at two levels: static comparison, based on direct observation and documentation of architectural elements, to reveal spatial and formal differences between contemporary dwellings and traditional Yikeyin; and dynamic comparison, which reviews key moments of transformation—including institutional changes and shifts in construction logic—to explain how these differences emerged.

3.5.1 Comparative Analysis and Evolutionary Mapping of Dwellings

3.5.1.1 Comparison of Forms

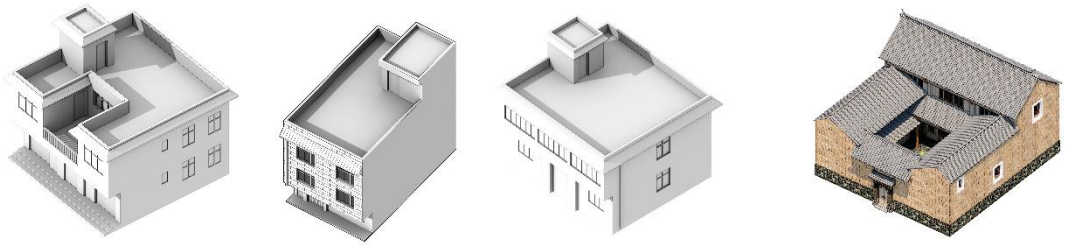


Figure 85 Comparison of Forms

It is clear that the building no longer has a courtyard layout and now features a flat roof. The window area is larger, and the overall volume is also relatively greater. However, the sense of solidity and heaviness has been retained.

3.5.1.2 Comparison of Materials

Traditional materials such as earth, wood, brick, and stone have been replaced by industrial materials, such as reinforced concrete, glass, cast iron, aluminum alloy, clay bricks, corrugated sheets, and asbestos tiles. These modern materials offer advantages such as low cost, ease of construction, and convenient transportation, but their drawback is that they are difficult to naturally degrade.

Figure 86 Comparison of Materials

3.5.1.3 Comparison of Layout

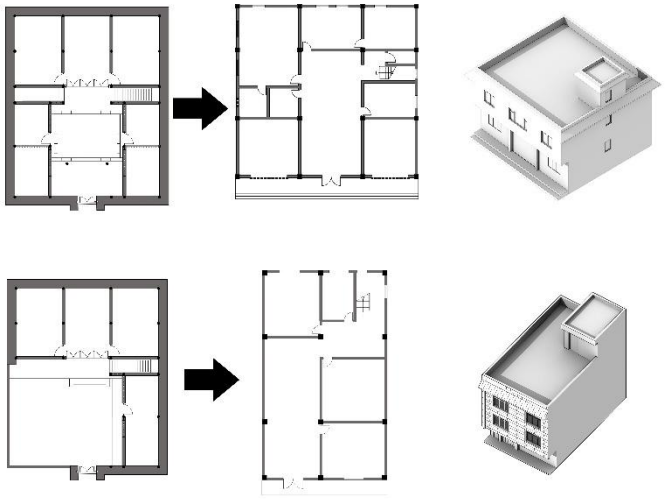


Figure 87 Comparison of Layout

The floor plan shows that although the overall structure and materials of the building have changed, the layout from Yikeyin vernacular architecture can still be identified in contemporary buildings. This provides valid evidence that contemporary dwellings evolved from Yikeyin. It indicates that during the process of evolution, Yikeyin was not completely forgotten, and its spatial pattern was still retained. However, the courtyard, which is the core spatial structure of Yikeyin, has disappeared in this process.

It is worth noting that during the field investigation of contemporary dwellings, it was found that although a small number of these dwellings have retained courtyards, their construction dates are earlier than those of dwellings that have already eliminated the courtyard. This indicates that the disappearance of courtyard space has become the current development trend.

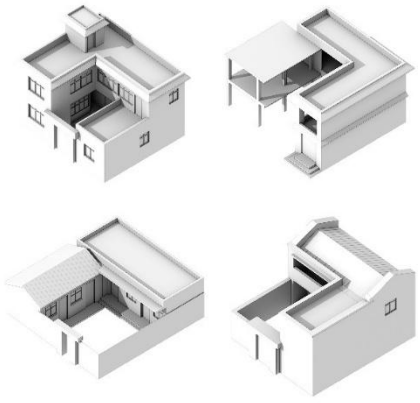


Figure 88 Contemporary Dwellings with Courtyard

3.5.1.4 Comparison of Philosophical Factors

The analysis of Yikeyin vernacular architecture shows that its construction responded to the natural environment and was influenced by philosophical and cultural elements, resulting in a unique architectural prototype in central Yunnan. These elements are evident in various aspects, including spatial layout, material use, orientation selection, and symbolic components, forming a physical expression of the relationship between architecture and nature, as well as between people.

However, in-depth interviews on contemporary dwellings revealed that people did not consider traditional philosophical and cultural elements when building their houses. They focused more on functional practicality, cost control, and the "modern" style of the building. This phenomenon is extremely common. The same response was obtained in all in-depth interviews. Most people lack understanding of the cultural meaning embodied by Yikeyin and are even unaware of the origin of its spatial logic and structural principles. Therefore, it can be concluded that philosophical and cultural elements are the main aspects lost in the process of Yikeyin evolving into contemporary dwellings.

3.5.2 Analysis of Evolution and Evolutionary Mapping

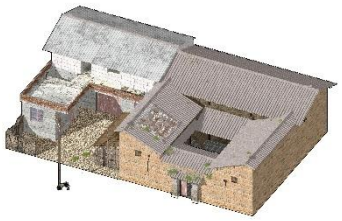
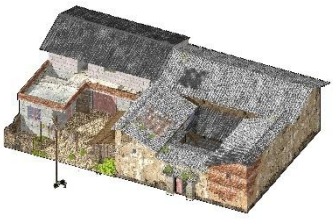
When conducting a comparative study between Yikeyin vernacular dwellings and modern dwellings, the most direct method is to study architectural phenomena. However, this approach yields only data related to architectural features. The author's practice in 2020 is one example. Simply grafting the formal features of Yikeyin did not achieve good results. This led the author to attempt research from additional perspectives.

Figure 89 Architectural Form Comparison and the Author's Early Design Practices

From 2022 to 2024, with support from the Youth Research Fund of the Ministry of Education of China, the author participated in a youth research project focused on the evolution of vernacular and contemporary dwellings. Through in-depth field investigation, the author documented from an anthropological perspective how architectural evolution developed alongside changes in family structure.

Figure 90 The Evolution of Dwelling Mapping
Source: Research Project Team (Author & Tan, 2024)

Table 6 Chronology of Significant Family Events and Dwelling Utilization

Time	Description	House Image
1980-1985	Li Dalang had two younger brothers, a sister, and parents. He left the village to work as a construction worker in the city. He married a woman from the same village. As he started a new family, he planned to move out of the old Yikeyin house. With his construction skills, he planned to build a new house next to the old one.	
1985-1990	After the new house was completed, his wife insisted on moving to the city. The new house was not used for long. During a minor earthquake, the wall on the left side cracked and collapsed. Li Dalang decided to help his father repair it with red bricks. His sister had also married and moved to another village, leaving the old house.	
1990-1995	The wooden structure of the room on the left side began to show signs of instability. For safety reasons, Li Dalang dismantled and rebuilt it. At that time, his second brother was unmarried. Seeing Li Dalang's success, he also decided to go to the city to try his luck. After Li Dalang was injured at a construction site, he returned to the village to recover and added a gate to his house. During this period, Li Dalang's mother passed away.	
1995-2000	The sister's marriage was unhappy, so she returned to the old house with her child. Li Dalang, having gained extensive construction experience, decided not to return to the city. He organized a rural construction team in the village and made a living by building houses for the villagers. He also repaired the right-side room for his sister to live in. Because of a severe stomach illness, Li Dalang's father was taken to a rented room in the city to be cared for by the second brother. Li Dalang moved into the old house but disliked the original timber-and-earth structure of the main hall and began to consider rebuilding it. The youngest brother, who had been farming in	

	the village, asked Li Dalang to help him modify the roof into a flat roof for drying grain.	
2000-2005	Li Dalang's father passed away. Although the youngest brother had started his own family, he lived with Li Dalang due to financial difficulties. After their father's death, inheritance issues caused tension between the siblings. Li Dalang's two daughters were in middle school and needed new rooms, so he added a temporary prefab room in the Daozuo position. The second brother returned to the village with his wife. Li Dalang invited him to join the construction team. Together, they decorated the house facade with ceramic tiles. Soon after, the second brother built a new house on another plot and started his own family.	
2005-2010	Li Dalang gave the house next to the old one to the youngest brother and gave him some money. The relationship between the brothers improved. Li Dalang rebuilt the wing rooms of the house. The youngest brother moved out of the main house. Li Dalang's wife brought her sick mother to live in the house for care. As the number of family members increased, Li Dalang planned to add a second floor to the existing house. His sister opened a small shop in the location of the original side room.	

In conducting evolutionary analysis, we can clearly identify two important events. First, from the 1980s to the 1990s, some villagers who originally made a living through farming began to enter the city to work in the construction industry. Second, after acquiring modern construction experience, this group chose to return to the village and build popular housing form Self-Provided construction. Many people, such as Li Dalang mentioned in the narrative, followed this path.

As stated in Chapter 2, from 1980 to 2010, rural China experienced three waves of housing construction booms. Many new-style rural houses were built during this period. These returning builders were the transmitters and practitioners of modern architectural language.

In contrast, traditional Yikeyin vernacular dwellings were built by local craftsmen. These craftsmen acquired construction knowledge through oral transmission in the master-apprentice system and long-term practice. Interviews with

craftsmen indicate that knowledge about cultural meaning and philosophical concepts, especially Feng Shui and taboos, was taught by masters during the construction process. This reflects the simultaneous process of construction activity and cultural transmission.

However, this generation of "returning builders," who construct contemporary dwellings, gained their skills through experience on urban construction sites. Most were involved in modern construction, and the methods they learned were simplified, standardized, and function-oriented. During their work, they did not participate in the building process of Yikeyin and lacked understanding of traditional cultural connotations. Therefore, from a construction perspective, the transformation of the builder's role directly led to the loss of the original cultural foundation and philosophical meaning of the architecture as it evolved into its contemporary form.

This can be regarded as one of the root causes of the loss of voice of Yikeyin vernacular dwellings in the modern construction context—the act of building is no longer a process of "crafting" and "cultural practice," but has gradually become a production process driven by technology and economic efficiency.

3.5.3 Analysis Summary

Based on the previous architectural analysis and the anthropological narrative analysis, the comparative analysis results are as follows:

Table 7 Comparison Between Yikeyin Dwelling and Contemporary Dwellings

No.	Category	Yikeyin Dwelling	Contemporary Dwellings
1	Materials	Local materials like earth, wood, bricks, and stones.	Modern materials like cement, reinforced concrete, and glass.
2	Structure	Earth and timber structures with adobe walls and beam-truss systems.	Reinforced concrete frames with load-bearing walls.
3	Design Philosophy	Based on Taoist and Confucian principles; emphasizes Feng Shui.	Lacks philosophical alignment; focuses on practicality and efficiency.
4	Orientation	Determined by terrain, typically facing southeast to optimize sunlight.	Often dictated by government planning, not Feng Shui.
5	Craftsmanship	Skilled traditional craftsmen with master-apprentice transmission.	Workers with urban experience; less traditional knowledge.

6	Roof	Sloped roofs influenced by Han architecture.	Modern flat or sloped roofs with industrialized materials.
7	Courtyards	Small enclosed courtyards for gathering and *Qi* circulation.	Courtyards often minimized or replaced due to urbanization influences.
8	Decoration	Carved wooden components, combining Yi culture and Han cultural motifs.	Minimal or European-style decorative elements, reflecting modern tastes.
9	Functionality	Multi-purpose: combines living spaces, livestock areas, and granaries.	Focused on residential use with modernized utilities and layouts.
10	Construction Process	Time-intensive, using natural resources and traditional tools.	Faster with standardized materials and industrial tools.
11	Driving Factors	Driven by terrain, local resources, climate and Chinese philosophy	Driven by commercial economy and technological advancements: Standardized and industrialized materials and designs prioritize economic efficiency and speed.

3.5.4 Interdisciplinary Reflection

In the comparative study, it is evident that although spatial functions, dimensions, materials, and craftsmen have changed, the basic layout of Yikeyin has been preserved throughout its evolution. This phenomenon merits reflection. What factors have contributed to the preservation of the spatial layout? This is only a manifestation at the micro level. However, this micro-level phenomenon reflects a more significant issue: how tradition is continued and what the core mechanism of tradition continuation is. This involves identifying and strengthening the internal mechanisms that can function continuously in the process of Yikeyin revival.

Therefore, this section will explain the evolution of Yikeyin using path dependence theory and complex systems theory.

1) Path Dependence Theory

The lock-in effects in path dependence theory can help explain why, after Han culture entered central Yunnan and merged with local Yi dwellings to form Yikeyin, many features of Han-style courtyard houses were retained. The use and construction of Yikeyin were indeed carried out by Han people due to population migration. But why did they choose Han-style dwellings instead of continuing the

form of Yi dwellings? According to the concept of “lock-in effects,” people make choices based on long-term habits. Han craftsmen relied on the building methods with which they were most familiar. Similarly, a designer tends to adjust details to fit their style when problems arise, rather than abandoning the original design. Han craftsmen would not completely redesign for a new environment. If previous methods still worked, they continued to use them.

The basic layout of Yikeyin is still preserved in contemporary dwellings. This can also be explained by theory. People lived in Yikeyin for a long time, and their perception of space and layout became a part of their life experience. According to the concept of “lock-in effects,” this experience remains in their minds and becomes a fundamental element of housing. Ordinary house users are not architects or designers; they do not plan with comprehensive design thinking and lack the ability for design innovation. Therefore, even when a house becomes a modern dwelling, some unnecessary or irrational layouts persist. For example, the position of the staircase still follows Yikeyin’s arrangement, or in rooms without courtyards, kitchen walls still have a window opening toward the “courtyard.” This is similar to Mumford’s (1961) opinion that once the major inventions and organizational forms of the Neolithic period were established, village life tended to become self-satisfied and conservative, continuing without change for thousands of years.

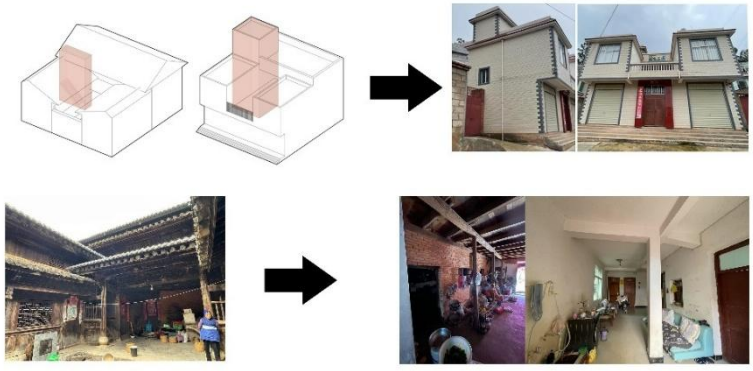


Figure 91 Staircase Location and Window Opening Toward the “Courtyard”

2) Complex System Theory

From the perspective of complex systems theory, the formation of the Yikeyin vernacular dwelling prototype—its spatial organization, construction logic, material selection, and other aspects—resulted from continuous adjustments by the village housing system during its long-term adaptation to the natural environment, social institutions, and cultural order. These experiences became “default experiences,” forming a stable and effective construction method and creating a cognitive and behavioral default hierarchy.

However, since the early 1980s, with the rise of housing booms, the introduction of new technologies and materials, and the transformation of modern social systems, lifestyles, and values, these old “default rules” have gradually lost

their original adaptability. When faced with new environmental demands—such as economic pressure, changes in population structure, new industries, housing commodification, and functional transformation—building users began a new process of trial and error. This process is accompanied by the "forgetting" of traditional memory, which also signifies the evolution of Yikeyin vernacular dwellings.

In summary, the evolution of Yikeyin is not a sudden rupture but a natural response of the system's internal "default hierarchy" updating mechanism in a complex environment. Notably, the preserved spatial patterns mentioned earlier may be "default structures" from previous experience that have not been completely forgotten and still retain some adaptability. Meanwhile, the lost philosophical symbols, cultural connotations, and material choices are elements the system prioritizes to "forget" in a new environment. How to recover these forgotten elements is key to the revival of Yikeyin.

In fact, complex systems theory provides a specific analytical direction for this study. Cilliers (2002) proposed that interactions between internal units of a system may produce nonlinear effects and promote the overall evolution of the system through self-organization mechanisms. He argued that the interaction between units mostly relies on "short-range communication" rather than long-range coordination. This network structure, based on local unit feedback, determines that system behavior is mainly realized through neighborhood influence.

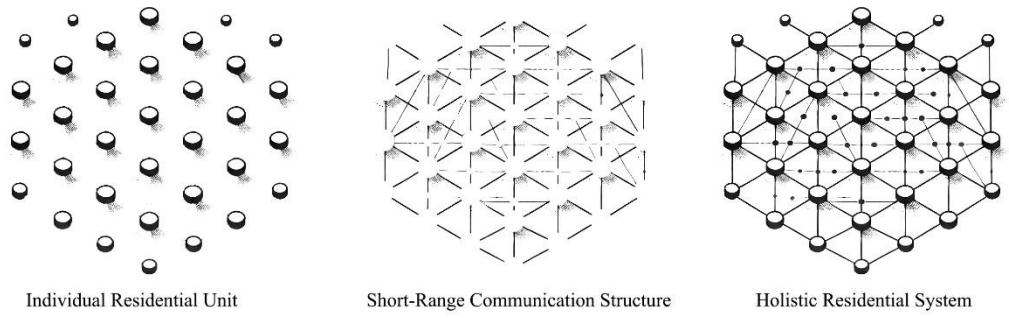


Figure 92 "Short-Range Communication" Structure

This feature can also explain certain phenomena in vernacular and modern dwellings. As users of architectural units, villagers are neither designers nor able to extract cultural elements or transform design language. Their construction behaviors mostly result from observing and imitating neighbors. According to in-depth interview results, many elder villagers first visit their neighbors' homes to check the quality of completed houses before building their own. If satisfied, they directly ask for the craftsmen's information. Even today, this word-of-mouth approach persists. For example, the selection of rural construction teams often relies on recommendations from relatives and friends.

Figure 93 Mutual Imitation Among Neighborhood Units

Another manifestation of “short-range communication” is mutual imitation. Imitation among neighbors is reflected not only in construction behavior but also in decoration styles, architectural forms, and material choices. In the survey, most respondents said they followed their neighbors out of a desire “not to fall behind.” The sentiment “Everyone builds like this; I cannot do worse than others” was almost a unanimous response. This shows that “short-range interaction” and the “imitation mechanism” are key driving forces in forming rural architectural group identity and also explain why certain forms continue to be copied during the evolution process.

The mechanism of “short-range communication” also highlights the unique advantage of the bottom-up PAR method compared to traditional top-down design approaches. It not only revives villagers’ memories of forgotten cultural and philosophical experiences in Yikeyin vernacular dwellings through joint participation, allowing these “default experiences” to re-enter collective cognition, but also, because PAR emphasizes villagers’ active expression and knowledge participation in practice, enables the design ideas and methods proposed by the researcher to be naturally disseminated within the village’s “short-range communication” network form workshops during the PE stage. These ideas can be understood, discussed, and adopted by more people, thus facilitating genuine knowledge transmission and sharing, as well as fostering group identity.

This transmission model among micro-units avoids the top-down information gap, allowing design concepts to move beyond individual researchers or experts and to be continuously shared, revised, and recreated among the villagers. It truly achieves the localization and contextual embedding of design knowledge, thereby promoting the revival of Yikeyin.

3.6 Summary

This chapter examines the evolutionary relationship between Yikeyin vernacular dwellings and contemporary self-provided housing. It conducts multi-dimensional data analysis and philosophical mapping. Through literature review and field research, the study identifies key elements of Yikeyin dwellings, including spatial layout, functional distribution, material use, orientation logic, architectural components, and decorative features. These elements are analyzed in relation to Confucianism, Taoism, Feng Shui, and the concept of the "unity of Heaven and People," forming the foundation for philosophical mapping. Based on this analysis, a Yikeyin component database is established for subsequent comparison and application.

The study continues with the observation and comparison of contemporary self-provided housing. Through analysis of case evolution and in-depth interviews with multiple households, it is found that although contemporary dwellings have clearly changed in builder roles, materials, and construction logic, the spatial layout often retains the core logic of Yikeyin. This suggests that default structures from traditional dwellings still persist in people's spatial awareness. At the same time, philosophical and cultural experiential knowledge has gradually been forgotten during modernization. Concepts related to ritual, symmetry along the central axis, and Yin-Yang balance are no longer widely understood or accepted.

To explain this evolution, the chapter introduces path dependence theory and complex systems theory. It examines how Yikeyin, as an accumulated form of long-term adaptive experience, has been partially preserved and partially forgotten under modern environmental pressures. It also demonstrates that the shift in builder identity, policy constraints, and changes in material values are key reasons for the loss of philosophical meaning. The chapter highlights the "short-range communication" mechanism found in complex systems. In village building practice, this is reflected in imitation and local feedback among neighbors, which help preserve spatial patterns. This explains why bottom-up Participatory Action Research (PAR) has the potential to reactivate traditional knowledge in such networked systems.

The revival of Yikeyin lies not in reproducing its external form, but in enabling the forgotten cultural and philosophical experience to re-enter collective understanding. The challenge is how to reassign value and meaning to these non-material elements in today's context. PAR offers a practical method by creating a process of participation, reflection, and shared knowledge. Through peer-level interaction and co-creation, villagers transform forgotten experience into living knowledge, allowing the revival of Yikeyin to occur through actual community practice.

Chapter 4

Cycles of Participatory Action and Design Development

4.1 Introduction

This chapter, building on the research from the previous three chapters, presents the complete process of five cycles of PAR. Based on reflective conclusions, it establishes the SPIRIT model, which is applicable to contemporary translation design of vernacular architecture, and further applies this model to new design attempts.

The PAR process consists of three parts: 1) Co-Design; 2) Evaluation (PE); and 3) Reflection. Co-Design is conducted jointly by the researcher and local villagers and results in specific design proposals. PE gathers evaluation data through questionnaires and, based on these results, conducts targeted in-depth interviews to verify the authenticity of the data and understand the reasons behind the villagers' evaluations. It also organizes workshops with relevant scholars and experts for discussion. Reflection summarizes the design proposals using the data results and interview content and, drawing on the new knowledge generated in the current round of practice, provides guidance for the next round of the Participatory Action cycle.

After completing the five cycles of PAR, the research, based on observations and practices throughout the process, proposes a SPIRIT model applicable to the modern transformation of vernacular architecture.

Subsequently, guided by the SPIRIT model, the research will conduct two new design attempts: one for rural dwellings and the other for the landscape center in Haiyan Village.

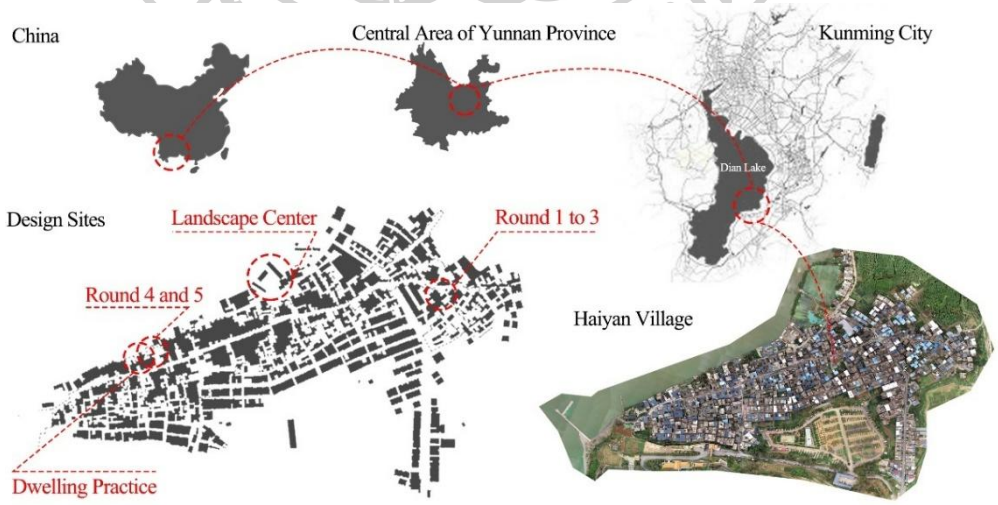


Figure 94 Sites of Participatory Action and Design

4.2 The First Round of PAR

4.2.1 Participants of Action

The first-round participants were Mr. Yang's family and Ms. Chen's family. Since Mr. Yang's family owns the site and will be the primary users of the future house, his participation more directly reflects the specific spatial and functional needs of the actual users. Therefore, he served as the main contributor to the design proposal. In contrast, Ms. Chen's family participated as supporting contributors, providing auxiliary opinions and not being deeply involved in all design details. Their main role was to understand and respond to the philosophical and cultural concepts conveyed by the researcher, in order to examine the acceptance and identification of non-user groups with these ideas.

4.2.2 Design Process and Proposal Representation

4.2.2.1 Site Analysis and Observation Report

The site was selected based on the recommendation of Mr. Yang, a local villager involved in the co-design process. He explained that the plot was inherited from his ancestors. In the late Qing Dynasty, his ancestors migrated from another area and built a Yikeyin vernacular dwelling there. After the family divided, Mr. Yang's ancestors constructed a new house within the same village. During the Republican period, the eldest uncle of the family, who was the original occupant of the house, moved with his entire family to another location, leaving the house unoccupied for many years. Later, the house was given to Mr. Yang's direct relatives. However, the building remained unused for a long time, leading to its dilapidation. Today, only two broken walls remain.

Figure 95 The Design Site of the First Round Participatory Action

There are two main reasons for choosing this site in the consideration process. First, the remaining walls roughly preserve the basic form of the Yikeyin vernacular dwelling. Designing based on this foundation allows for an assessment of the community villagers' identification with and acceptance of the traditional layout and scale. Second, heritage preservation practices in case studies show that such dilapidated building ruins can be transformed from elements that originally hindered

design into usable heritage. Whether this design method, which incorporates a sense of preservation, can be accepted is also worth examining in the design process.

The overall orientation of the design site is from northwest to southeast. Based on the orientation of the remaining wall at the gate, the original Yikeyin building faced northwest toward Dian Lake but did not back onto a mountain. In Feng Shui philosophy, although the ideal “back mountain and face water” layout was not fully achieved, the principle of “taking water as the priority” (L. Yang, 2005) was essentially satisfied. Therefore, basic “Qi accumulation” can be realized.

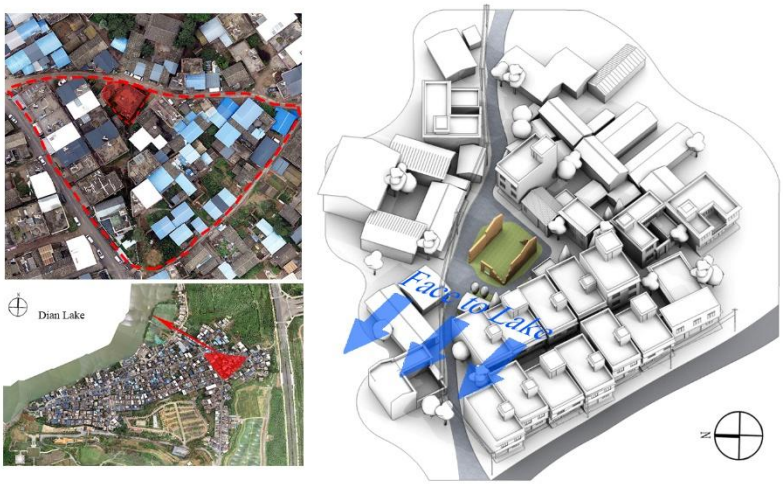


Figure 96 Site Orientation

The main wind direction at the site is a lake breeze blowing from the west (Dian Lake) to the east (land) during the day, and a land breeze blowing from the land to the west at night.

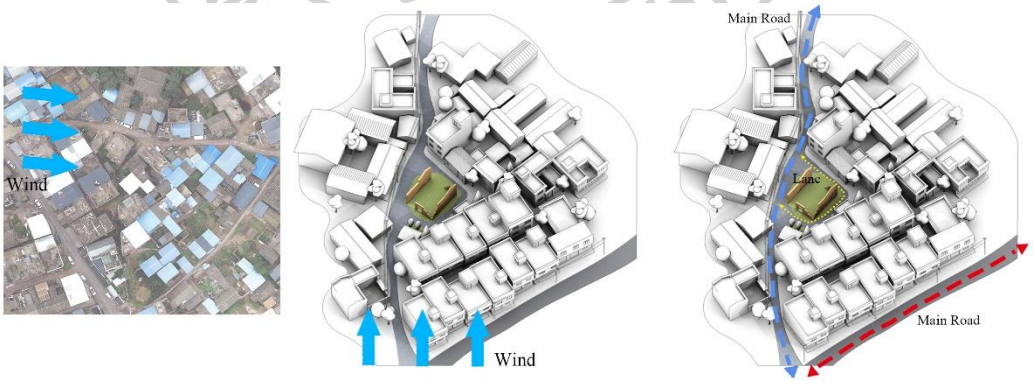


Figure 97 Daytime Lake Breeze and Traffic Conditions

The site is adjacent to the main village street, with alleys around the building leading to other dwelling units. Overall, the traffic conditions are relatively accessible.

The surroundings of the site are densely packed self-provided houses with poor visual conditions, while on the north side there is a traditional courtyard building.

Observation Report

During the site analysis process, Mr. Yang primarily focused on the building's traffic conditions, including whether it would be convenient to access and whether the house would face the main street. At this stage, Ms. Chen did not participate in the discussion.

The researcher then introduced Mr. Yang to related concepts, such as the Fengshui layout of “backing the mountain and facing the water” and “gathering Qi.” Mr. Yang stated that he had heard of the orientation logic of “backing the mountain and facing the water,” but did not understand that its core purpose was to gather Qi. During the conversation, it was observed that Mr. Yang confused the common northern Chinese residential orientation of “sitting north and facing south” with the logic of “backing the mountain and facing the water.”

After the researcher explained the meaning of “Qi,” Mr. Yang began to attach great importance to it, believing that the presence or absence of Qi determines the rise and fall of the family. He recalled that in the past, his ancestors would invite a Fengshui master to evaluate the site before building a house. However, in recent decades of village construction, most land has been uniformly allocated by the government, and villagers have had little choice. As a result, when building houses, the vast majority no longer consider the orientation of the house.

4.2.2.2 Massing, Layout, Functions Design and Observation Report

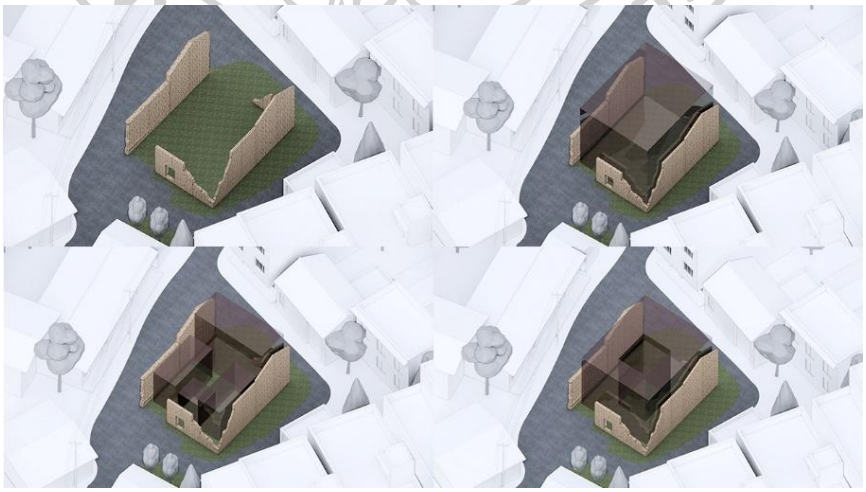


Figure 98 Volumetric Composition Retaining the Yikeyin Prototype

The design maintains the basic form of Yikeyin vernacular dwellings in

terms of spatial massing: the main hall is higher than the two side rooms, and the two side rooms are higher than the entrance hall (Daozuo). The overall architectural volume is solid and heavy, preserving the square form of traditional Yikeyin architecture that resembles a seal. The design approach is to retain the remaining walls on the original site and renovate them. The original wooden structural system is replaced with a steel frame structure, and the roof continues to use a pitched roof form.

Figure 99 Messing Analysis and Structure

In terms of layout, the new design is modified based on the Yikeyin prototype in the following ways:

1. **Main Hall Modifications**: On the first floor, the original master bedroom on the left has been removed and merged with the central space to form a living room, a change that deviates from the traditional Confucian spatial hierarchy. The right side has been converted into a toilet and a secondary entrance hall; notably, the original Yikeyin prototype did not include a toilet). On the second floor, the central and left rooms are combined to create the main bedroom, while the right side is arranged as a bathroom and study serving the master suite.

2. **Side Room Modification:** To meet modern living needs, the two bays in the prototype are also integrated into a large space. The left side now features a dining room on the first floor and the bedroom on the second floor.

The right side houses kitchen on the first floor. Per the client's request, the kitchen not only serves the family but also has functions as a public bar, with the second floor used as a dine-in area.

3. **Entrance Hall:** A screen is installed at the entrance hall to fulfill the function of blocking wind and gathering Qi.

4. **Courtyard:** The courtyard is retained, continuing the spatial organization of the traditional prototype to embody philosophical concepts such as "Four Waters Converge in the Courtyard," "*Yin-Yang* Balance," and "Void-Solid Integration."

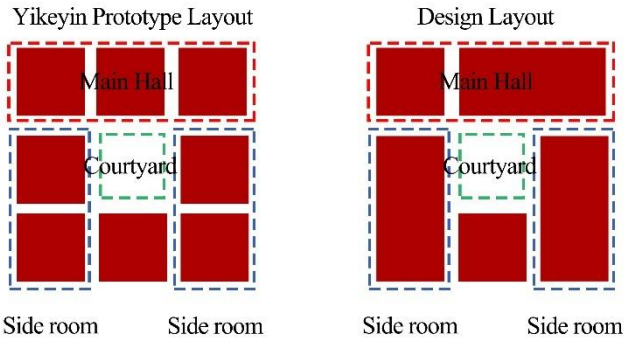


Figure 100 Layout Changes of Design

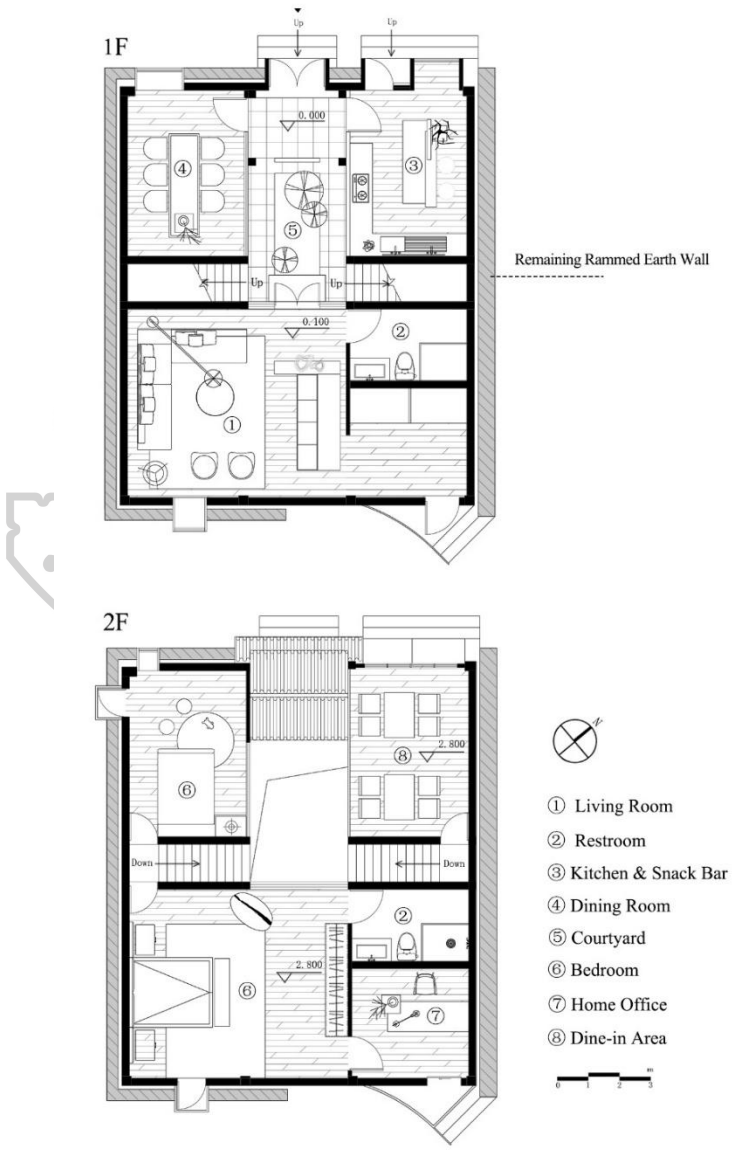


Figure 101 Design Layout Plan

Observation Report

During the design stage for massing, layout, and function, Ms. Chen's family also participated in the discussion. The overall building volume followed the traditional prototype of Yikeyin. Mr. Yang's family supported this and agreed with designing on the site of the existing ruins. However, Ms. Chen noted that the traditional Yikeyin building has a relatively small volume and insufficient space. If site conditions allow, the building's scale should be appropriately enlarged to better meet the needs of modern daily life.

During the building layout design process, the researcher was pleased to observe that both Mr. Yang and Ms. Chen made many concrete suggestions. In particular, during the discussion of the nine-grid layout, they demonstrated familiarity with the concept and actively proposed combining two rooms into one larger space. They also accurately defined the functions of each room and compared them with the traditional Yikeyin layout. This indicates that, even without architectural training, they retained a basic understanding of the traditional layout.

In this stage, the researcher explained in detail the Confucian, Taoist, and Feng Shui philosophical ideas embedded in spatial layout and functional settings. Encouragingly, the Confucian concept of spatial and functional hierarchy had not been completely forgotten. Before the researcher's explanation, Mr. Yang and Ms. Chen were already somewhat familiar with these related concepts. However, it is noteworthy that although they understood these philosophical elements, they still actively chose to break the traditional spatial hierarchy (for example, by integrating the left and right bedrooms on the first floor) in exchange for a larger living space. This trade-off shows that, in the face of modern living needs, traditional order may take a back seat.

In contrast, when presented with abstract the Taoist concepts such as "*Yin-Yang* Balance" and "Void-Solid Integration," the two families demonstrated a clear unfamiliarity and difficulty in comprehension. Consequently, their level of acceptance was significantly lower than that for Confucian principles.

In the discussion of Feng Shui, participants showed relatively high identification. For example, Mr. Yang quickly understood the core meaning of the "Four Waters Converge in the Courtyard" concept, especially noting that such a roof design implies "wealth accumulation." This indicates that in the Feng Shui context, the abstract concept of Qi has been transformed into a more concrete symbol of "wealth," gaining stronger practical meaning and cultural intimacy. Overall, the symbolic and auspicious meanings in Feng Shui can be accepted by villagers and stimulate identification.

4.2.2.3 Materials Selection and Observation Report

The main structure of the building uses a light steel frame, while some enclosure walls are built with masonry bricks, finished with cement mortar, and coated with white architectural paint. Many wall surfaces, doors, windows, and screen

doors are made of solid wood panels and wood composite boards. The roof is covered with ceramic tiles. These methods aim to reflect the traditional construction logic and material texture of the Yikeyin architectural prototype.

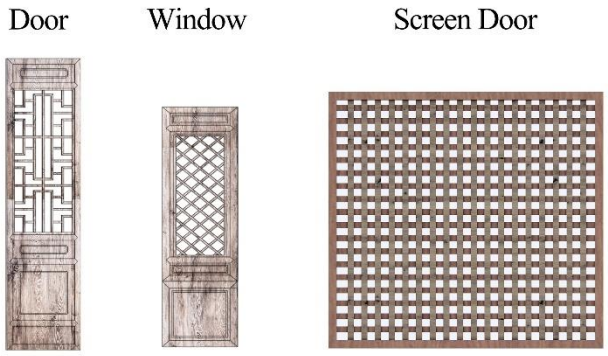


Figure 102 Decorative Patterns of Doors, Windows, and Screen Door

In terms of decoration, the design emphasizes the detailed expression of door panels, windows, and screen doors. The door panels feature the "Lantern Brocade" pattern extracted from the database; the windows use the commonly seen "Double-Cross Plum Blossom Lattice" pattern in Yikeyin; and the screen doors adopt a more general lattice pattern. These traditional patterns were selected independently by the co-designers, and the researcher did not directly intervene in this process.

Observation Report

Regarding material selection, Mr. Yang showed a clear preference. He believed that the proportion of wood used in the design was too high, which could significantly increase construction costs. Nevertheless, he acknowledged the spatial aesthetic that wood provides. Ms. Chen expressed a similar view, stating that wood should be limited to components such as doors, windows, and screen doors.

Despite these concerns, the researcher proceeded with the extensive use of wood in this round, based on two key reasons:

1. Although the co-designers held reservations about the cost of wood, they generally agreed on the unique value of wood in enhancing spatial aesthetics. While cost is a reasonable concern, this initial judgment was based only on the opinions of a few co-designers and was not considered representative of the broader community's view.

2. Key participants noted that the use of traditional materials is fundamental to the recognizability of vernacular architecture. It was the recognizability of the Yikeyin prototype would directly affect the acceptance level of the overall design. However, early-stage interviews revealed that many residents felt contemporary dwellings lacked the charm of past vernacular buildings, describing them as generic, reinforced-concrete boxes. This feedback led to the hypothesis that architectural forms with Yikeyin characteristics could evoke residents' emotional memories, and enhance

their sense of cultural identity.

Based on these two points, the researcher decided to adhere closely to the Yikeyin architectural prototype in the first round. The concern regarding material costs was noted and scheduled for further discussion in the subsequent second round of practice as an important reference for design adjustment.

4.2.2.4 Proposal Representation

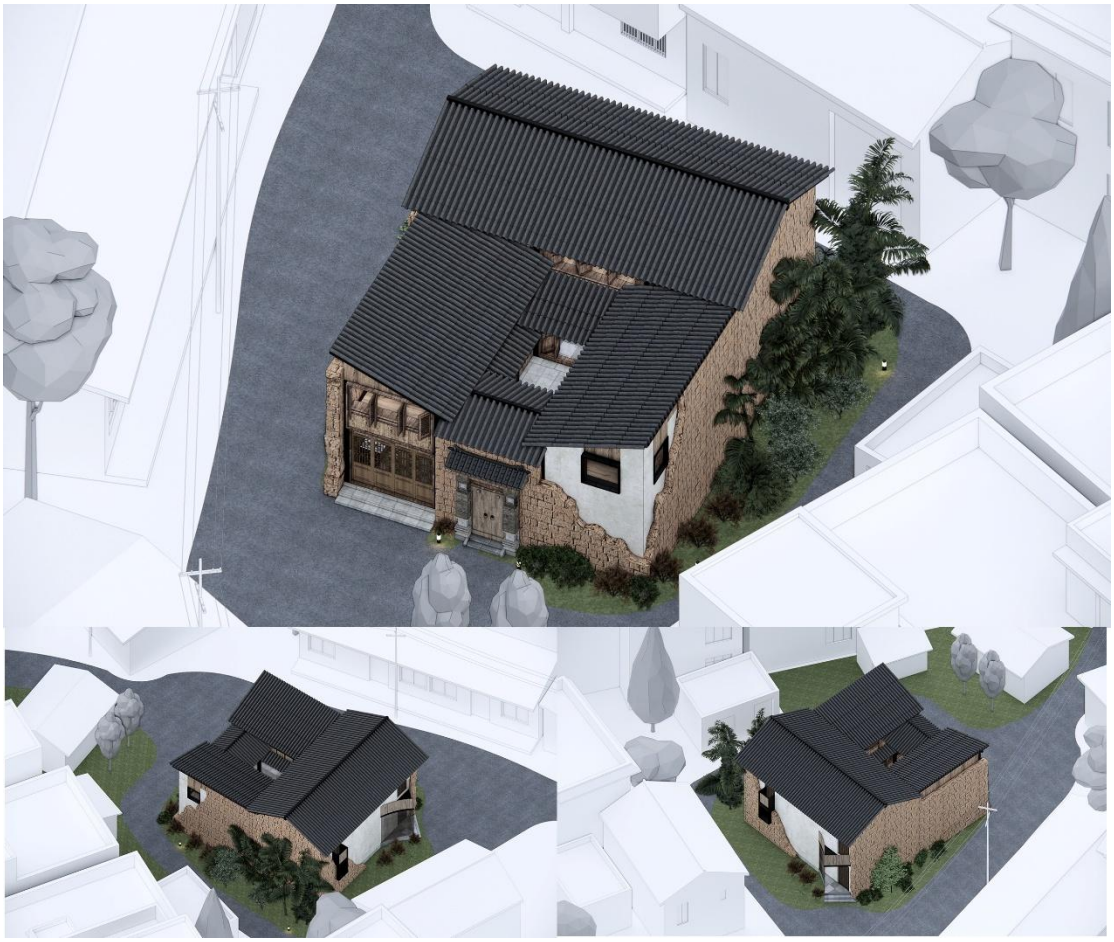


Figure 103 Architectural Axonometric Drawing

Figure 104 Architectural Rendering

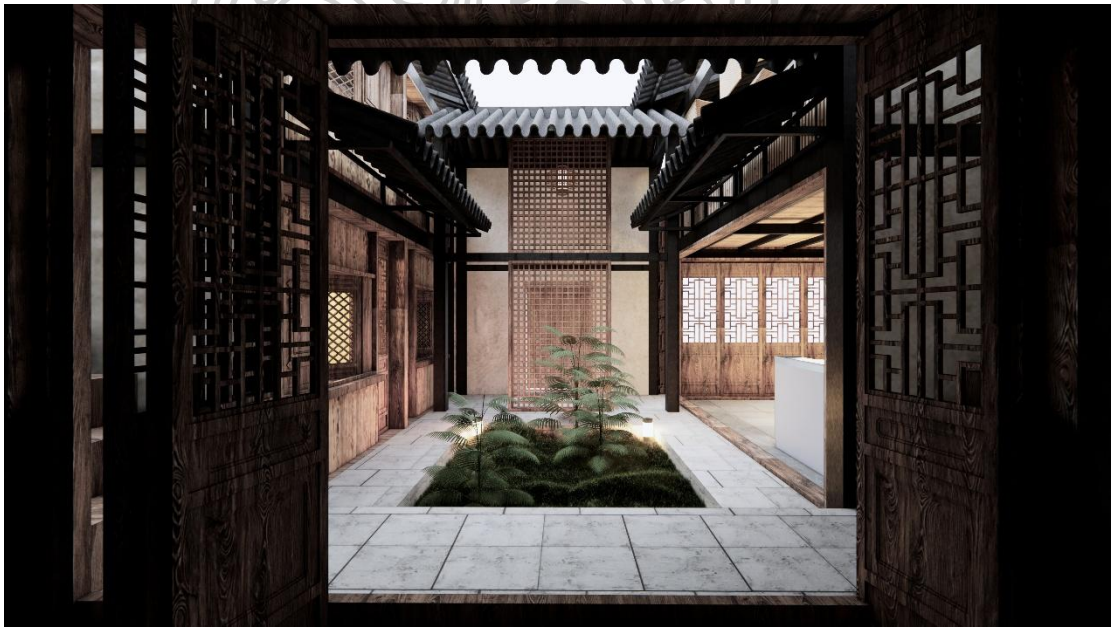


Figure 105 Courtyard Rendering

Figure 106 Architectural Elevation

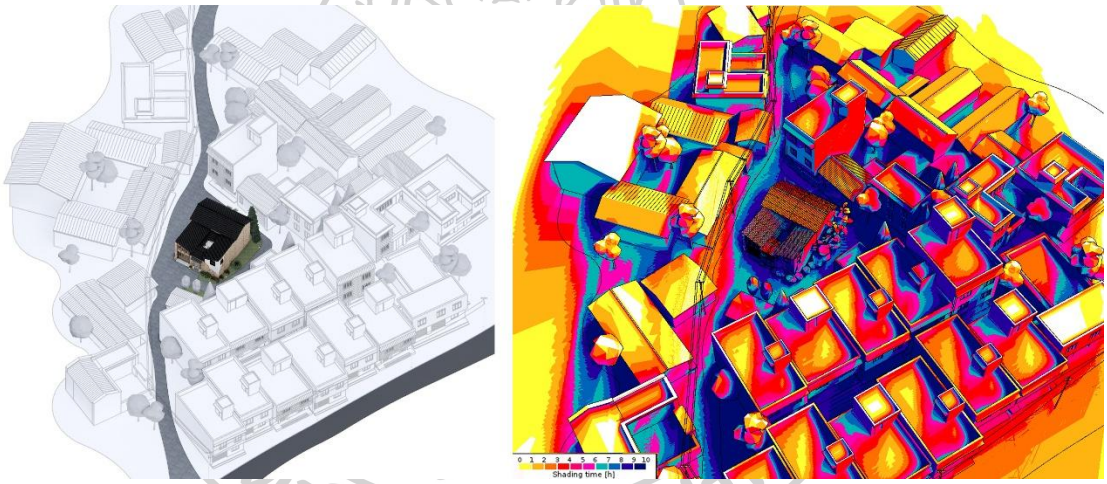


Figure 107 Relationship with Surrounding Buildings and Shadow Analysis

4.2.3 Participatory Evaluation (PE) of Design

4.2.3.1 Analysis of Questionnaire Results

For this design, 50 questionnaires were distributed in Haiyan Village to collect qualitative data.

The questionnaire comprised the following nine questions:

Q1: Do you think this design is similar to Yikeyin? (Recognizability)

Q2: Overall, are you satisfied with the proposal?

Q3: Are you satisfied with the construction cost?

Q4: Are you satisfied with the architectural decoration?

Q5: Are you satisfied with the functionality of the building?

Q6: Are you satisfied with the spatial layout?

Q7: Are you satisfied with the material selection?

Q8: If you were the client for this proposal, would you adopt it?

Q9: If other villagers wanted to build a house, would you recommend this proposal to them?

This survey used a five-point Likert scale (1-5) to measure the villagers' satisfaction with the design proposal and their willingness to adopt it. After data collection, the researcher conducted a descriptive analysis of the collected data.

The following are the analysis results.

Table 8 Data analysis of the round 1 design proposal

No.	Category	Mean	Variance	S.D.	95%CI
1	Similarity to Yikeyin	4.73	0.19	0.44	[4.61, 4.85]
2	Overall Satisfaction	3.28	0.88	0.94	[3.02, 3.54]
3	Satisfaction (Construction Costs)	2.38	0.91	0.95	[2.12, 2.64]
4	Satisfaction (Decoration)	4.73	0.34	0.58	[4.57, 4.89]
5	Satisfaction (Functionality)	4.33	0.58	0.76	[4.12, 4.54]
6	Satisfaction (Spatial Layout)	4.93	0.15	0.39	[4.82, 5.04]
7	Satisfaction (Material Selection)	2.05	0.69	0.83	[1.82, 2.28]
8	Willingness to Adopt	3.33	1.10	1.05	[3.04, 3.62]
9	Willingness to Recommend	3.77	0.61	0.78	[3.55, 3.99]

According to the data, in the first-round design proposal, villagers easily recognized the architectural prototype of Yikeyin and expressed high satisfaction with the building's layout, decoration, and functional arrangement (mean > 4.00). However, overall satisfaction was not high, and villagers' willingness to adopt the proposal or recommend it to others was relatively limited. In particular, satisfaction with material selection and construction cost was low.

The data clearly show that villagers have significant concerns about building materials and construction costs. Combined with observations from the design process, it appears that most community residents shared similar views with Mr. Yang and Ms. Chen. However, whether the budget concern was directly caused by the heavy use of wood remains unclear; other factors may also be influencing it.

It is worth noting a certain contradiction: material expenses were mainly focused on components such as doors, windows, and walls, which are also the main decorative parts of the design. The data show high satisfaction with decoration, while dissatisfaction was expressed regarding material selection. This phenomenon should be explored further in the follow-up in-depth interviews.

In addition, regarding recognizability, although the proposal clearly featured Yikeyin characteristics, this did not appear to significantly improve villagers' overall satisfaction with the design. Since material selection and construction cost may have had a major impact on satisfaction, it is not yet possible to clearly determine the actual effect of recognizability on satisfaction, which requires further study and verification.

4.2.3.2 In-depth Interviews for Questionnaire Data Results

All variables from the questionnaire were addressed during the interviews:

1. **Recognizability:** Villagers' recognition of the traditional Yikeyin architectural prototype mainly comes from visual experience, such as architectural form, massing, material, and color. Many people also noted that the spatial layout of the building is a key factor in recognizability, especially the position of the courtyard and the living room. The presence or absence of a courtyard has become an important basis for distinguishing traditional vernacular buildings from modern residences. Many villagers do not use the term "Yikeyin" to refer to this traditional architectural form but are more accustomed to calling it a "Heyuanfang (courtyard house)."

2. **Overall satisfaction:** Villagers generally believe that construction cost is their primary concern. Some villagers share Ms. Chen's view that the traditional spatial layout is too cramped and does not meet current needs for larger living spaces. They prefer the open layout of modern residential styles.

3. **Decoration, layout, and function:** The vast majority of respondents recognized the decorative elements of Yikeyin architecture, believing these represent aesthetic and practical wisdom passed down from their ancestors. The improved functional settings and spatial layout were also widely accepted. The main reason is that these architectural elements are strongly imprinted in their living memories and can evoke emotional resonance and recall past experiences.

4. **Understanding and trade-off of philosophical elements:** Most villagers can still recognize the Confucian hierarchy concept embodied in the spatial layout. However, they do not understand other philosophical elements and are unable to identify the philosophical and cultural connotations in the design. It is worth noting that when choosing between the Confucian ritual order and modern spatial needs, villagers tend to favor the latter, which is the same approach as Mr. Yang and Ms. Chen.

5. **Material selection and construction cost:** Consistent with Mr. Yang's view, many villagers noted that although the extensive use of wooden components, especially in walls, improved aesthetic value, it significantly increased construction and maintenance costs. Wood offers aesthetic value but is expensive and complicated to maintain. Some villagers also expressed doubts about the light steel structure, believing its high cost makes it difficult to promote.

6. **Adoption and recommendation willingness:** These two aspects are closely related to overall satisfaction. Most villagers said they were unwilling to adopt or recommend a design proposal with a high cost. Price became a key barrier affecting acceptance of the design.

4.2.4 Reflection on the First Round of Design

4.2.4.1 Reflection on the Philosophical Factors

Reflection on Confucian Philosophy

The hierarchical concept in Confucian philosophy still exists in the

consciousness of community residents. As a reflection of the class order in ancient society, this concept has long been deeply rooted in daily life. However, in the process of design choice, villagers tend to adapt to the spatial needs of modern life. This tendency directly breaks the traditional hierarchical order in practice. From the perspective of modern human rights and equality, this shift is positive, but the traditional virtues embodied in Confucian hierarchical thinking, such as "respecting the elderly and caring for the young," still have positive significance and are worth preserving. At the spatial design level, specific expression should prioritize the elderly and children in design considerations.

Reflection on Taoist Philosophy

Compared with Confucian thought, Taoist philosophy has a significantly lower level of public acceptance. The main reason is that Taoist concepts such as the "mutual generation of void and solid" and the "balance of Yin and Yang" are more abstract and relate more closely to the spiritual relationship among humans, architecture, and nature. These concepts are difficult to derive from daily spatial experiences, and villagers lack the knowledge base to actively recognize their symbolism in the design.

Reflection on the Feng Shui Philosophy

The acceptance of Feng Shui philosophy is slightly higher than that of Taoist philosophy. This is because some symbolic elements in Feng Shui, such as "Qi gathering" and "Four Waters Converge in the Courtyard," reflect aspirations for a better life and are believed to be associated with family harmony, economic development, and career success. Although villagers do not understand the systematic content of Feng Shui theory, this does not prevent them from resonating with the auspicious imagery conveyed by Feng Shui philosophy. They are willing to accept Feng Shui as a form of cultural expression and to assign it positive meanings in spatial use.

Overall, this round of design practice and the subsequent in-depth interview verify the accuracy of the research results in Chapter Three: villagers have gradually forgotten the philosophical elements embedded in Yikeyin dwellings. More importantly, without guidance or explanation from the researcher, they are unable to actively identify these philosophical connotations in the architectural design proposal. This phenomenon indicates that the revival of philosophical ideas in Yikeyin cannot rely solely on reproducing architectural form. In other words, the medium for disseminating philosophical knowledge should not be limited to the architectural structure itself, but should include the interactive process between researchers or knowledge communicators and co-designers.

4.2.4.2 Reflection on the Design

Reflection on the Messing, Layout and Functions

Overall, people generally recognize and accept the redesign approach based on architectural heritage sites. This suggests that such a method is feasible and publicly accepted in architectural heritage conservation and reuse projects. The architectural form and massing of Yikeyin remain widely recognizable and acknowledged, so the second-round design can continue to build on the first-round proposal. However, some villagers expressed a preference for the large-scale spaces of modern dwellings, indicating that the adaptability of spatial scale still needs to be considered and adjusted in the subsequent design.

The data indicates that spatial layouts similar to traditional forms remain widely accepted. When viewed through the lens of path dependence and the concept of "default" in complex systems theory, it can be inferred that people naturally prefer familiar spatial forms, which preference may help explain why the spatial layout of Yikeyin evokes emotional resonance. Furthermore, in workshop discussions with experts, a question was raised for future exploration regarding whether the integration of local construction method familiar to villagers could further improve satisfaction with the proposal.

At the functional setting level, people tend to choose layouts that adapt to modern lifestyles, even if this means breaking the constraints of Confucian hierarchical order on space. This departure from traditional spatial constraints reflects architecture's adaptability to real-life environments. Haiyan Village is currently undergoing industrial transformation. The development of tourism has led Mr. Yang to propose using part of his residential space for commercial purposes. This idea attracted more villagers' interest during the proposal evaluation stage, indicating that in the modern transformation of Yikeyin, functional settings will become more flexible.

Reflection on the Materials and Costs

Architectural economy has become a key factor influencing proposal satisfaction. Therefore, material selection will be prioritized in the second-round design. According to Ms. Chen's suggestion, wooden elements should be reserved only for decorative components such as doors, windows, and screen doors, while adjustments can be made to main structural materials such as walls. Experts in the workshop also noted that construction methods familiar to local villagers can be adopted to control costs while maintaining a certain degree of traditional expression. The re-identification and application of local construction knowledge may be a strategy to resolve the contradiction between economic feasibility and cultural expression.

4.3 The Second Round of PAR

4.3.1 Participants of Action

The main co-designers for this round are still the researcher and Mr. Yang. The difference is that Mr. Xiao was added as a new participant in this round and,

together with Ms. Chen, formed a discussion group to participate in the design discussion.

4.3.2 Development of Design

4.3.2.1 Design Process

This round of design is based on the first-round proposal. The following elements remain unchanged: site location, building volume and form, spatial layout, and functional arrangement.

The main adjustment in this round of design focuses on material replacement:

1. **Interior walls of the building**: In the first-round design, the interior walls were made of masonry with a wood composite board facing; in this round, the wood composite board facing has been removed.

2. **Exterior walls of the building**: The treatment of the exterior walls is the same as that of the interior walls, and colored corrugated roofing sheets have been added to the outside of the wall surface as decoration to enhance the facade expression.

3. **Redesign of the screen door**: In the first-round design, the screen door was made of solid wood with a lattice pattern; in this round, it is redesigned using a light steel frame combined with snail shells and ceramic tiles as the main materials. It is worth mentioning that the decorative technique using snail shells and ceramic tiles was a local creative idea by the villagers, reflecting local identity and participation in material expression.

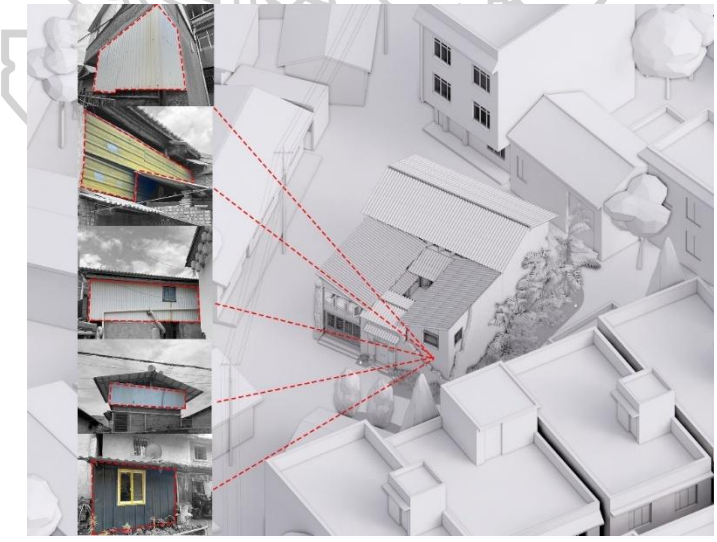


Figure 108 Colored Corrugated Roofing Sheets on the Wall

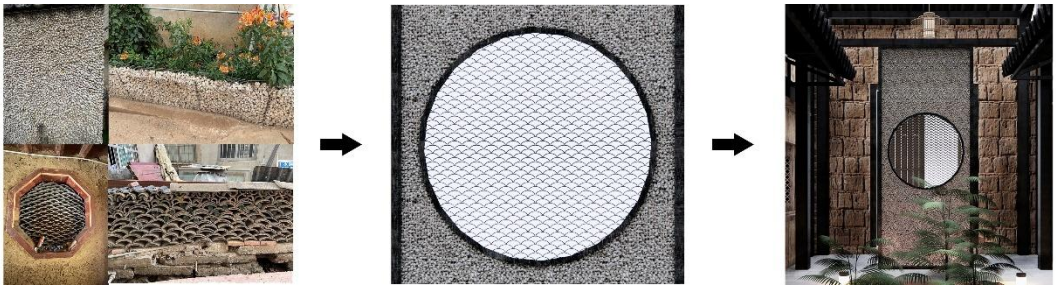


Figure 109 The Screen Door Design

4.3.2.2 Observation Report

To improve building economy, the discussion group unanimously approved canceling the use of wood composite board on the interior walls, believing this adjustment would help reduce overall construction costs. Mr. Xiao further suggested that using a light steel structure as the building frame is not economical and proposed using reinforced concrete as the main structural system. Ms. Chen expressed the same opinion.

Regarding the treatment of exterior walls with corrugated roofing sheets, Mr. Yang expressed approval, believing this method is simple and easy to apply. However, Mr. Xiao held a negative view, noting that corrugated roofing sheets are generally considered inexpensive materials, commonly used for temporary construction or emergency repair of damaged components, and lack aesthetic or architectural value. Ms. Chen expressed a neutral stance, but the researcher observed that she did not display a positive attitude toward this decorative method and therefore questioned the authenticity of her "neutral" position.

Regarding the screen door design, the discussion group members generally affirmed the use of stacked snail shells and fish-scale-pattern ceramic tiles, believing that this approach reflects local characteristics and innovative expression. Meanwhile, Mr. Yang also noted that the wooden lattice-pattern screen door used in the first round has aesthetic value and suggested that future screen door designs could flexibly choose between these two methods.

4.3.2.3 Proposal Representation

Figure 110 Architectural Axonometric Drawing

Figure 111 Architectural Rendering

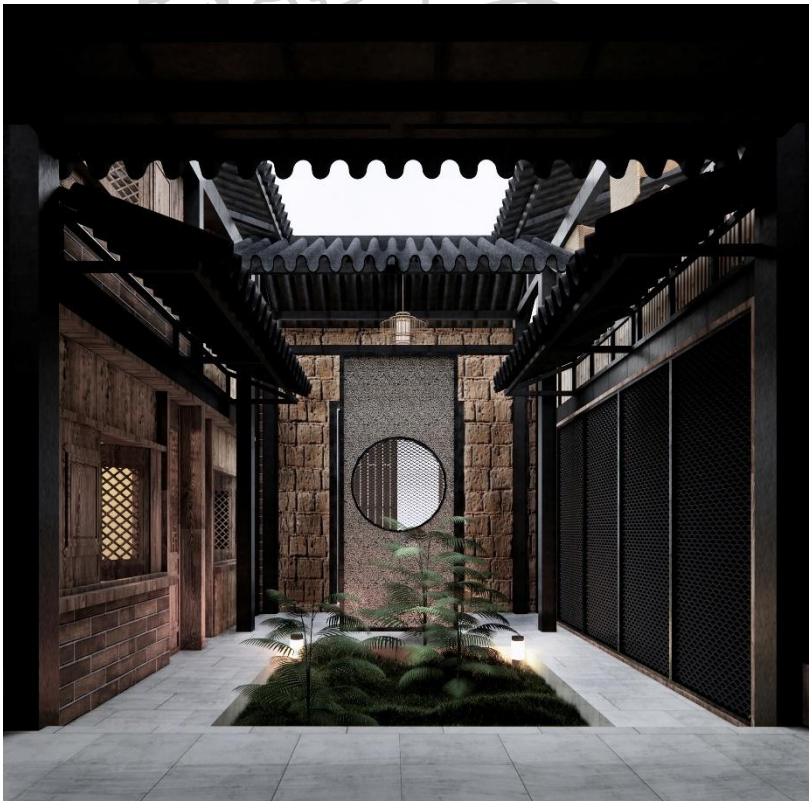


Figure 112 Courtyard Rendering

Figure 113 Architectural Elevation

4.3.3 Participatory Evaluation (PE) of Design

4.3.3.1 Analysis of Questionnaire Results

The questions and variables in this round of the survey are the same as those in the previous round.

The following are the statistical results of the data:

Table 9 Data analysis of the round 2 design proposal

No.	Category	Mean	Variance	S.D.	95%CI
1	Similarity to Yikeyin	4.44	0.25	0.50	[4.30, 4.58]
2	Overall Satisfaction	3.88	0.80	0.90	[3.63, 4.13]
3	Satisfaction (Construction Costs)	3.70	0.83	0.91	[3.44, 3.96]
4	Satisfaction (Decoration)	3.72	0.57	0.76	[3.50, 3.94]
5	Satisfaction (Functionality)	4.28	0.21	0.45	[4.15, 4.41]
6	Satisfaction (Spatial Layout)	4.88	0.11	0.33	[4.79, 4.97]
7	Satisfaction (Material Selection)	3.68	0.71	0.84	[3.44, 3.92]
8	Willingness to Adopt	3.92	0.81	0.90	[3.66, 4.18]
9	Willingness to Recommend	4.16	0.71	0.84	[3.92, 4.40]

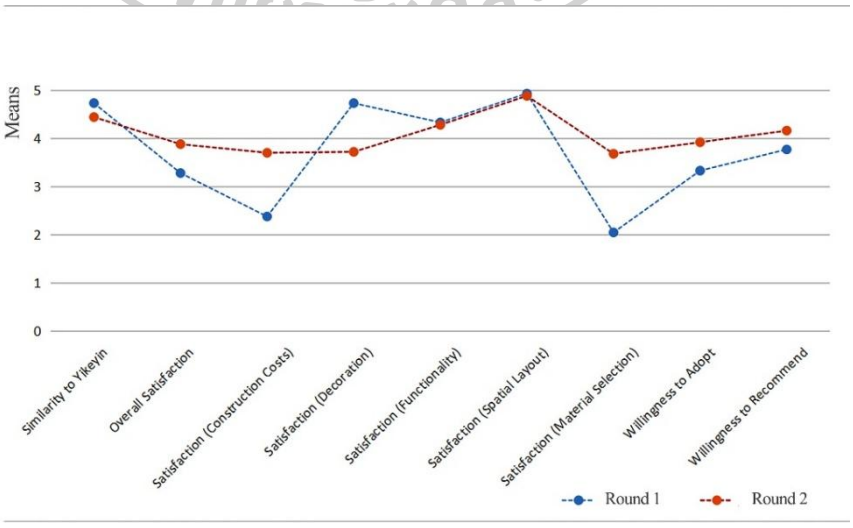


Figure 114 Line Chart of Means Value changes from Round 1 to the Round 2

To illustrate the impact of the adjustments made in the second-round, a line chart compares the changes in mean values between the first and second rounds.

Primary Findings: The most noticeable finding is that replacing building materials significantly reduced construction costs, and increased community satisfaction. This improvement in cost satisfaction also correlated with a slight increase in overall satisfaction and willingness to adopt and recommend the design.

Further Analysis: Two points merit further attention:

Satisfaction with decoration: Residents' satisfaction with decoration decreased in the second round. However, because overall satisfaction still increased, this may indicate that satisfaction with decoration does not have a strong correlation with overall satisfaction. One possible explanation is that the variables related to materials and costs, reflecting economic efficiency, played a decisive role. This assumption requires verification through interviews.

Recognizability of Yikeyin: After the material replacement, the recognizability of traditional Yikeyin features in the design declined slightly, but overall satisfaction increased. Similar to the decorative elements, it remains unclear whether there is a strong correlation between recognizability and overall satisfaction, especially under the influence of economic variables. The primary conclusion from this data analysis is that the choice of building materials and the resulting construction cost have a strong, direct correlation with the overall satisfaction of the design.

4.3.3.2 In-depth Interviews for Questionnaire Data Results

The main focus of the interview content was on the design adjustments in this round and on seeking suggestions for further improvement.

Materials and construction costs played a decisive role in the acceptance of the design proposal, as confirmed in the interviews. Most interviewees stated that decoration is not the main criterion they use to judge architectural design. Whether a house can be practically built—its construction cost and functionality—are their primary concerns. "Wealthy people can choose to decorate their houses, but families with limited means will only decorate the front facade or not decorate at all."

In the interviews, most villagers clearly expressed disapproval of using colored corrugated roofing sheets on exterior walls. Their views were consistent with Mr. Xiao's. They generally considered corrugated roofing sheets a cheap material. The use of this material was even seen as a symbol of identity or economic status, regarded as a reflection of "poverty." This was one of the main reasons for the decline in decoration satisfaction in this round of design.

Interviewees widely supported using stacked snail shells and tiles to form a fish-scale pattern. They believed this decoration carries strong local symbolic meaning and can evoke emotional identification with traditional local building practices.

Additional suggestions for improvement were raised during the interviews. Most participants believed that painting the walls with white architectural paint would

be preferable to using corrugated metal sheets. Some also suggested removing traditional wooden doors and windows, replacing traditional tiled roofs, and using reinforced concrete frame structures instead of light steel structures to further reduce construction costs and simplify maintenance. They generally expressed approval of the white-wall building form.

This feedback was conveyed to the design participants and the discussion group. The participants stated that they had been inclined to adopt these more economical and practical methods from the beginning.

4.3.4 Reflection on the Second Round of Design

4.3.4.1 Reflection on Trust Formation

The PAR research method emphasizes communication and interaction. Therefore, establishing a relationship of trust between the researcher and collaborators before the research and action begin is crucial.

Observations from this study indicate potential challenges in this area. For instance, a key participant's delayed negative feedback on corrugated roofing sheets, along with the fact that the collaborative group did not express their true opinions until a late evaluation stage, suggests that collaborators may conceal their real thoughts out of politeness or desire to to cater to the researcher's expectations. This phenomenon can compromise the validity of the findings. In contrast, interviews with non-direct participants often yielded more genuine and straightforward feedback.

These findings suggest that a longer period of initial communication is necessary to build a solid foundation of trust before entering the Action stage or PAR. Furthermore, during the design process, collaborators should be actively encouraged to express their true personal ideas frankly, rather than conforming out of a sense of cooperation.

4.3.4.2 Reflection on Design Adjustments

It is understandable that community villagers do not agree with the use of corrugated sheets. People's understanding of materials is shaped by long-term experience. Corrugated sheets or iron sheets, because they are inexpensive, have historically been used in informal temporary structures or for simple repairs of damaged building components. Temporary buildings have long been regarded as cheap and low-quality spaces. This stereotype has also given corrugated sheets symbolic meanings beyond their physical properties, such as "poor," "damaged," or "temporary."

In contrast, villagers accept the use of snail shells and ceramic tiles. This indicates that the suggestions made by experts in the first round merit further consideration and application. As common materials in local construction, snail shells and ceramic tiles not only reflect local characteristics in their patterns but also evoke memories of local lifestyles. Using such materials enhances the building's local identity and offers a potential solution to the problem of homogeneity in

contemporary rural architecture.

In summary, the use of materials in this context leads to the following conclusion: materials have cultural attributes and social symbolic meanings beyond their physical properties. Whether people accept a material is closely related to the social perceptions constructed around it. Incorporating local construction traditions into design is worth considering, but before implementation, a more detailed preliminary investigation and material presentation should be conducted to ensure a certain level of acceptance and recognition within the community.

4.4 The Third Round of PAR

4.4.1 Participants of Action

The participants in this round of design are the same as those in the second round.

4.4.2 Development of Design

In the third round of design, the approach of building on the ruins and the Yikeyin prototype massing remained unchanged.

In this round of design, the researcher paid more attention to communicating with the participants and encouraged them to design according to their own wishes and express their personal opinions.

Therefore, the adjustments made in this round were larger than those in the previous round. These adjustments included the structural system, roof form, spatial layout, functional arrangement, material selection, and specific architectural components such as window forms and balconies.

Figure 115 AIGC Visual Representation

In this round of design discussions, AIGC technology was introduced as an auxiliary tool for decisions on materials and architectural style, with the main purpose of quickly visualizing the participants' ideas.

4.4.2.1 Functional and Layout Adjustments

The first-floor spatial layout remained unchanged. On the second floor, the window of the left-side room was converted into a small balcony; the function of the right-side room was changed from a public dining area to a children's bedroom, and the enclosed space was modified to a semi-enclosed space. The second floor of the original Daozuo (entrance hall) was designed as a flat roof and connected to the left and right side rooms through a semi-enclosed space, serving as an open platform.

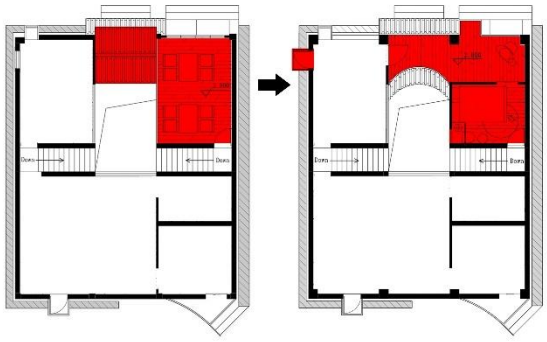


Figure 116 Functional and Layout Adjustments

4.4.2.2 Materials and Framework

The building frame was changed from the previous light steel structure to a reinforced concrete frame. The interior and exterior walls were finished with cement mortar and painted with white architectural paint. The traditional ceramic tile roof was removed, and some window materials were replaced with aluminum alloy glass windows.

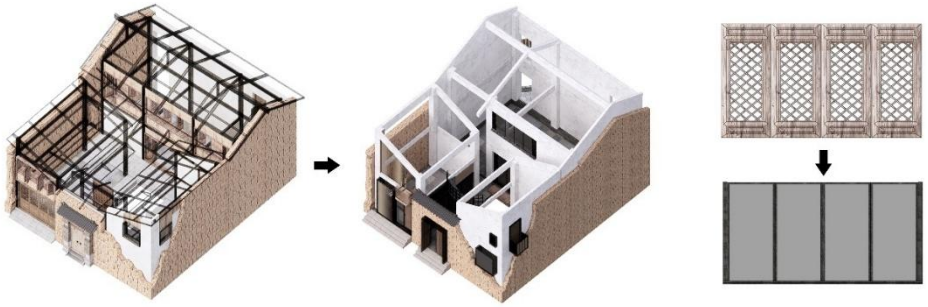


Figure 117 Framework and Windows Adjustments

4.4.2.3 Observation Report

During the design process of this round, the researcher clearly observed a significant increase in the enthusiasm of the co-designer and discussion participants. During the discussion, they were able to propose more ideas and express their

intentions more directly.

In the discussion on layout and functional configuration, Mr. Xiao suggested that, since there were children in the family, the second floor of the right-side room could be converted into a children's room. Ms. Chen agreed with this idea. Mr. Yang stated that he hoped the house could have a large platform, but in the previous round, he believed it would be difficult to achieve this in the traditional layout. The researcher provided corresponding design suggestions based on his idea.

For material selection, the discussion group expressed greater approval for this round of the proposal. For architectural paint, the researcher recommended a color closer to traditional rammed earth walls based on previous color analysis, but the discussion group rejected this suggestion. They believed that the strong contrast between the pure white walls and the rammed earth walls on the site enhanced the building's aesthetic quality.

When the final design was presented, Ms. Chen said she liked this version of the proposal very much. However, she also noted that her only regret was that the overall scale of the building still appeared relatively small. If it could be proportionally enlarged while maintaining the current form, she would be very willing to adopt this proposal when building her house in the future.

4.4.2.4 Proposal Representation

Figure 118 Architectural Axonometric Drawing

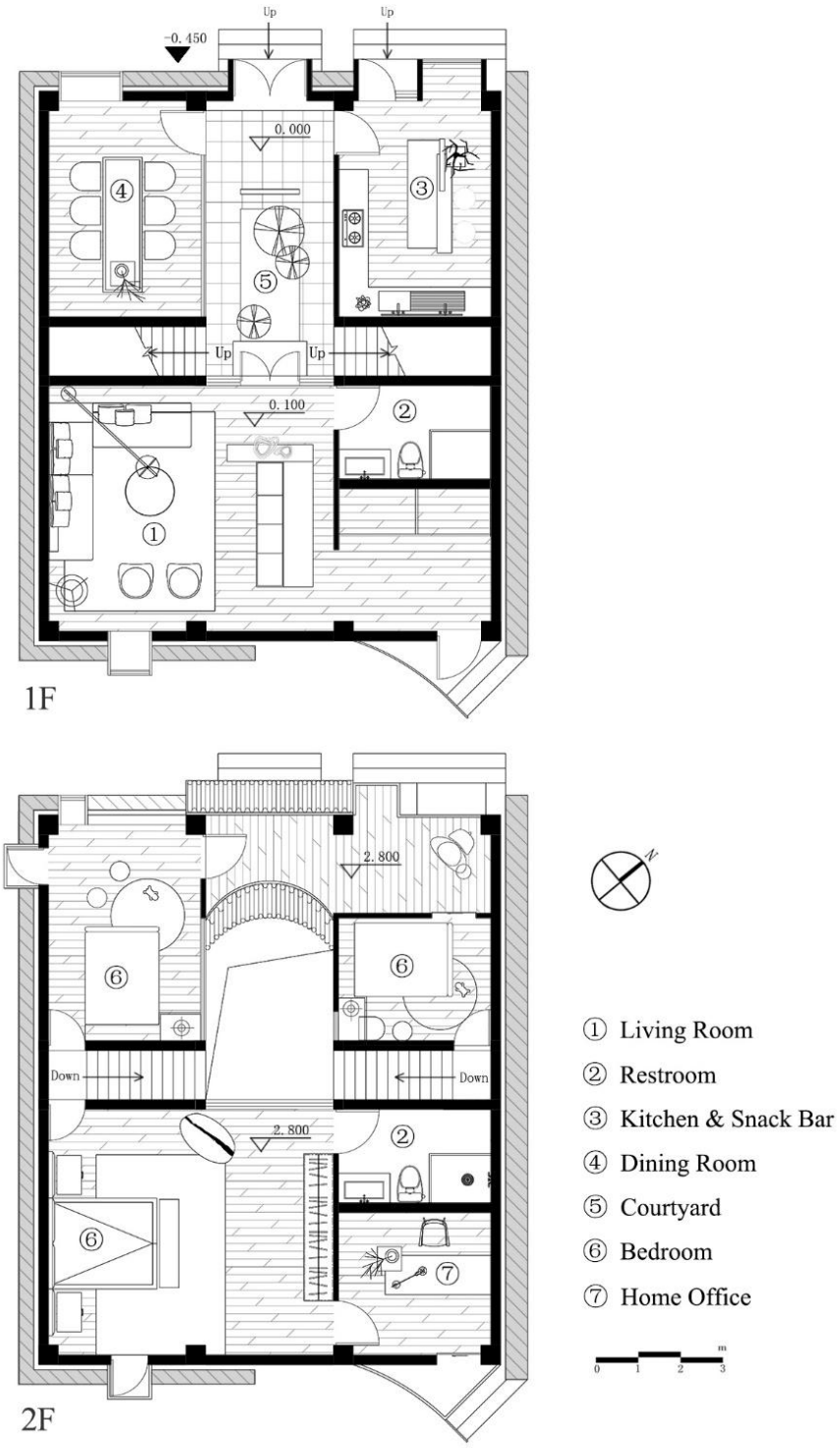


Figure 119 Architectural Layout Plan

Figure 120 Architectural Rendering

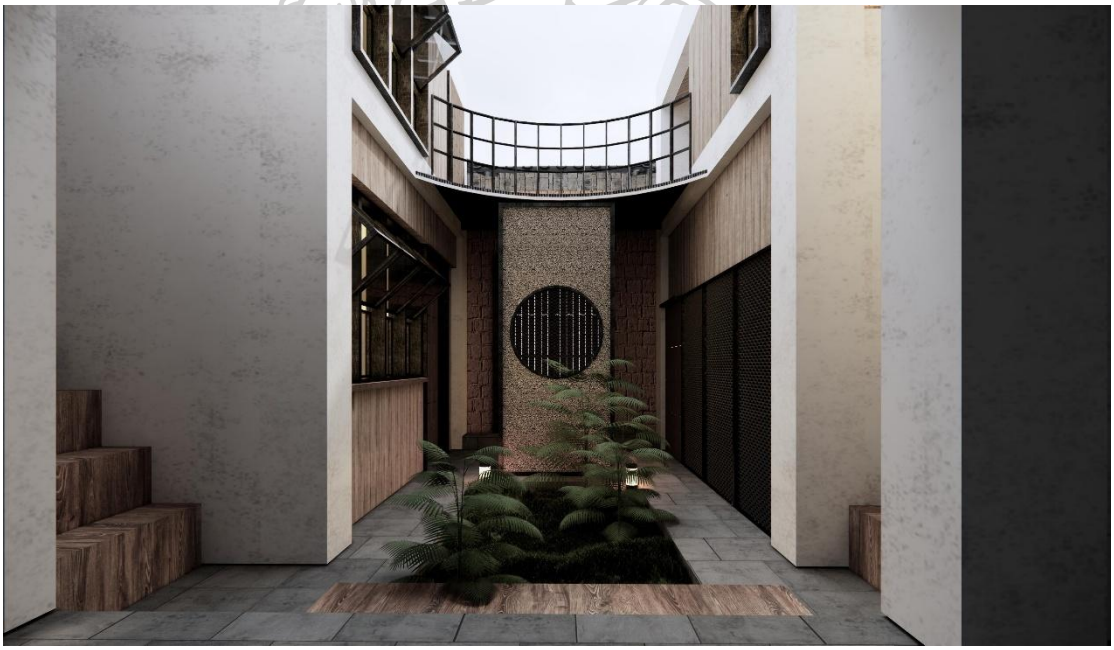


Figure 121 Courtyard Rendering

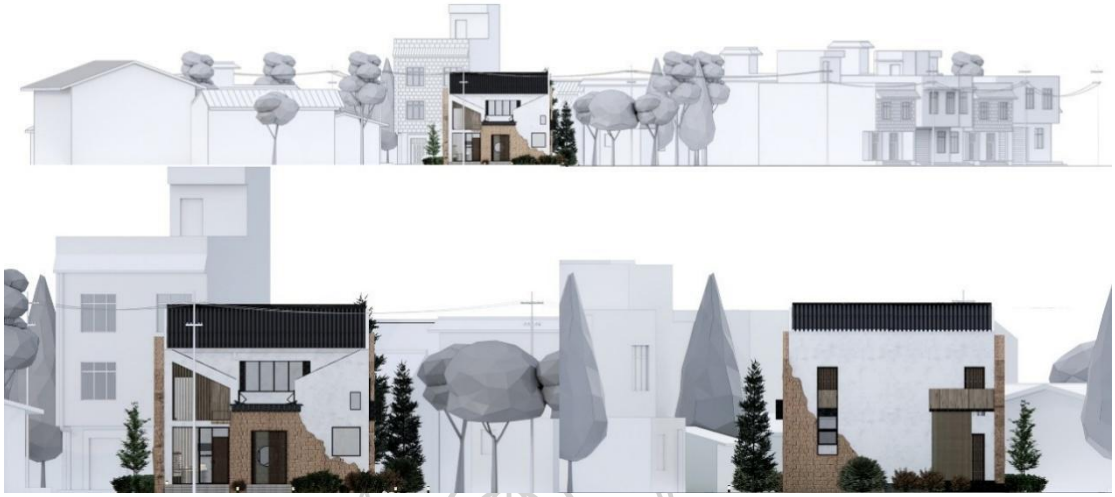


Figure 122 Architectural Elevation

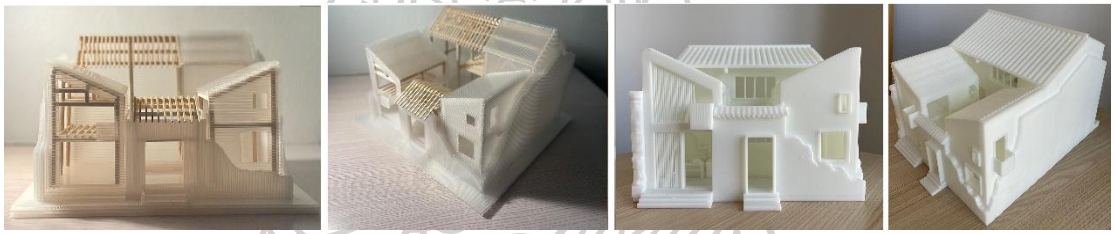


Figure 123 Physical Model

4.4.3 Participatory Evaluation (PE) of Design

4.4.3.1 Analysis of Questionnaire Results

The following are the statistical results of the data:

Table 10 Data analysis of the round 3 design proposal

No.	Category	Mean	Variance	S.D.	95%CI
1	Similarity to Yikeyin	4.38	0.34	0.58	[4.22, 4.54]
2	Overall Satisfaction	4.08	0.74	0.86	[3.84, 4.32]
3	Satisfaction (Construction Costs)	3.95	0.92	0.96	[3.67, 4.23]
4	Satisfaction (Decoration)	4.05	0.55	0.74	[3.85, 4.25]
5	Satisfaction (Functionality)	4.53	0.38	0.62	[4.35, 4.71]
6	Satisfaction (Spatial Layout)	4.63	0.34	0.58	[4.47, 4.79]
7	Satisfaction (Material Selection)	3.98	0.64	0.80	[3.76, 4.20]
8	Willingness to Adopt	4.18	0.79	0.89	[3.92, 4.44]
9	Willingness to Recommend	4.43	0.45	0.67	[4.25, 4.61]

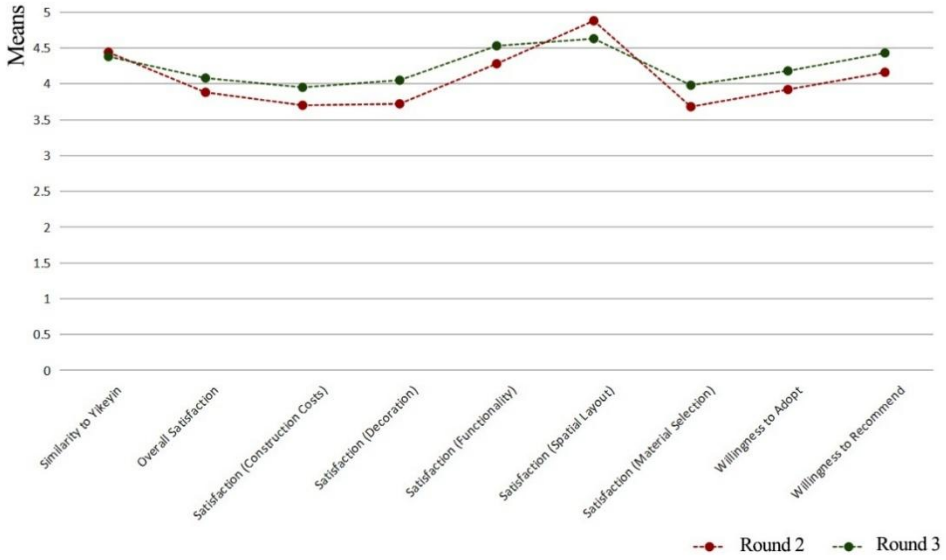


Figure 124 Line Chart of Means Value changes from Round 2 to the Round 3

According to the data, except for the decline in satisfaction with the spatial layout and the rating of Yikeyin recognizability, all other indicators have improved. Overall, the modern characteristics of the design have become more prominent, but this has not weakened people's satisfaction with the overall proposal.

It is worth noting that satisfaction with the spatial layout and the recognizability of Yikeyin showed a relative decline. The specific reason for this change remains unclear and requires further exploration through in-depth interviews to determine which design adjustments caused this change and what factors actually influence the villagers' attitudes and perceptions.

4.4.3.2 In-depth Interviews for Questionnaire Data Results

Regarding the decline in the recognizability of Yikeyin, respondents generally believed that changes in materials, colors, and roof form made the overall design closer to a modern architectural style. However, they also pointed out that the overall form and massing of the building still retained the basic image of Yikeyin relatively well, so it was not difficult to identify its traditional features.

The new spatial layout differs significantly from the architectural prototype of Yikeyin, especially with the addition of the platform, which breaks the original nine-grid pattern and makes the overall spatial organization inconsistent with the Yikeyin remembered by the villagers. Some respondents believed that this design deviates from the original intention of preserving traditional vernacular architecture. However, they also stated that they could accept the functional changes brought by the new space and considered them more practical for modern life.

Compared with the first two rounds of design, respondents generally

preferred the modern architectural style of the third round. They believed that architecture should adapt to the development of the times, that new building materials reflect technological progress, and that modern-style houses represent improvements in living quality and the renewal of the era.

4.4.4 Reflection on the Third Round of Design

4.4.4.1 Reflection on Design

Reflection on Materials

The main adjustment in this round of design was the replacement of materials. People generally accepted the use of new building materials, believing they could effectively reduce construction costs. Most villagers saw new materials as a sign that architecture was keeping up with the times. In workshop discussions with experts, some scholars noted that new materials gave buildings more modern characteristics, and that buildings with modern features often appeared in cities. Cities are the economic and cultural centers of a region. Urban architecture has a continuous and profound impact on people's aesthetic preferences, which causes villagers to gradually shift toward modern architecture in terms of visual experience and value judgment. The novelty and symbolic meaning brought by modern architecture easily leads people to follow blindly, and this trend is almost irreversible.

Therefore, in the modern transformation of Yikeyin, the use of modern materials is nearly inevitable. Although using of original materials can preserve tradition, in the current context of continuously evolving village lifestyles and aesthetic views, such persistence risk becoming disconnected from reality and failing to gain community recognition.

This reflects the Taoist philosophy of "following the trend" and "adapting to time and circumstances." Taoism emphasizes not forcibly interfering with the development of things, but rather following natural law and allowing things to evolve naturally. This suggests that when facing changes in building materials and construction technologies, we should not rigidly adhere to tradition or resist progress. Instead, we should embrace technological advancement and social demand, flexibly combining traditional spirit with contemporary form to achieve true inheritance and renewal.

Reflection on Layout

The layout and function are closely interconnected, but a contradiction emerged in this round of design: people generally accepted the newly added functional settings, yet their satisfaction with the spatial layout, which serves as the carrier of these functions, decreased. This result seems contradictory.

Respondents generally stated that the new layout broke the traditional pattern of Yikeyin, making it difficult to reflect its intended value of protection. In the workshop discussion, experts proposed several reasonable explanations for the decline in satisfaction with the layout:

1. Community residents have a deep emotional connection to local architectural culture, which stems more from life experience and collective memory than from a systematic understanding of traditional forms.
2. This recognition is accompanied by a strong sense of boundaries and cultural pride. They tend to regard local traditions as their own. Even if they cannot clearly articulate their value, they firmly believe these traditions are good and insist they should not be changed at will
3. In the ongoing PAR process, villagers have subtly assumed the role of "protectors of Yikeyin vernacular dwellings
4. Residents are not professional designers or researchers. In their view, “reviving Yikeyin” is almost equivalent to “statically preserving Yikeyin.” Therefore, they believe the design should be faithful to the traditional prototype.
5. Faced with the dilemma between “preserving tradition” and “realizing function,” villagers subconsciously chose the latter option.

Reflection on Design Development

Although the third-round scheme gained recognition from the majority after three rounds of design iteration, this process is still insufficient to support the overall goal of reviving Yikeyin in this study.

1. The three rounds of the PAR cycle have shown that secondary design on the original architectural site is feasible, but such special site conditions are uncommon in practice. Contemporary rural housing construction is more often carried out on open plots without the restrictions or guidance of original-site reconstruction. Therefore, how to develop contemporary expressions of Yikeyin under large-scale and unrestricted site conditions still requires further exploration in future practice.
2. The current three rounds of design have generally retained the traditional formal characteristics of Yikeyin. It is still unclear whether people can accept significant changes in the architectural form.
3. According to feedback from Ms. Chen, most community residents prefer houses with larger spaces. Therefore, how to continue responding to and adapting the Yikeyin prototype, given the increased flexibility in function and space, still needs to be explored through practice.
4. The importance of intangible elements, such as philosophy, in the design process has been repeatedly emphasized. If the Yikeyin prototype is no longer used as the main design reference, but instead a new spatial organization logic and formal expression are generated from its underlying philosophical spirit,

whether such a strategy can be accepted by the public still needs further verification.

4.5 The Fourth Round of PAR

4.5.1 Participants of Action

In this round of design, the main designer changed from Mr. Yang to Ms. Chen, while the families of Mr. Yang and Mr. Xiao formed the discussion group.

4.5.2 Design Process and Proposal Representation

4.5.2.1 Site

The site was recommended by Ms. Chen. The original building on the site was her ancestral house, which has now been demolished. After marrying Mr. Wu, who is also from the same village, she has lived in her husband's home. Since the demolition of the former building, the site has remained unused.

There are three main reasons for choosing this site:

1. Compared with the sites used in the previous three rounds of design, this site is flat and spacious. Such topographical conditions are more common in residential construction projects in the village, align with most actual situations, and are therefore more representative.

2. The more flexible construction conditions enable expansion of the space and increase the scale, allowing for a more targeted response to the general demand for larger spaces expressed by residents in the previous three rounds of design practice.

3. The architectural ruins used in earlier design phases largely constrained or guided the layout, making it inevitable for the designs to directly respond to the Yikeyin prototype layout. The design on this site can explore more unexpected changes and possibilities in spatial layout.

The site is oriented roughly north-south, facing Dian Lake with Meijia Mountain behind it. This orientation follows the Feng Shui principle of "backing the mountain and facing the water," making it a natural place for Qi to gather.

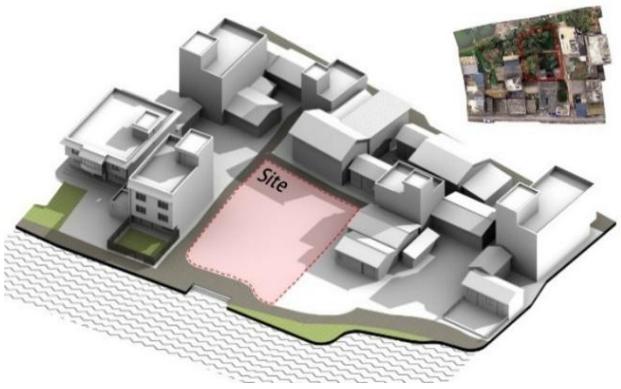


Figure 125 Design Site of the Fourth Round Participatory Action

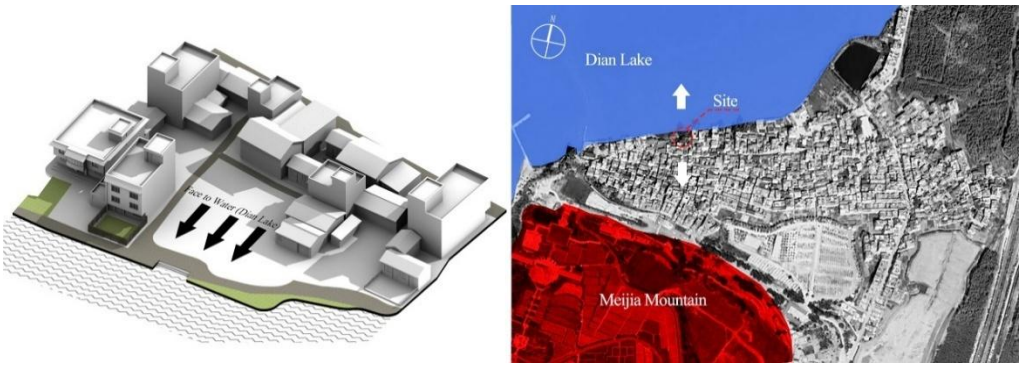


Figure 126 Orientation of the Site

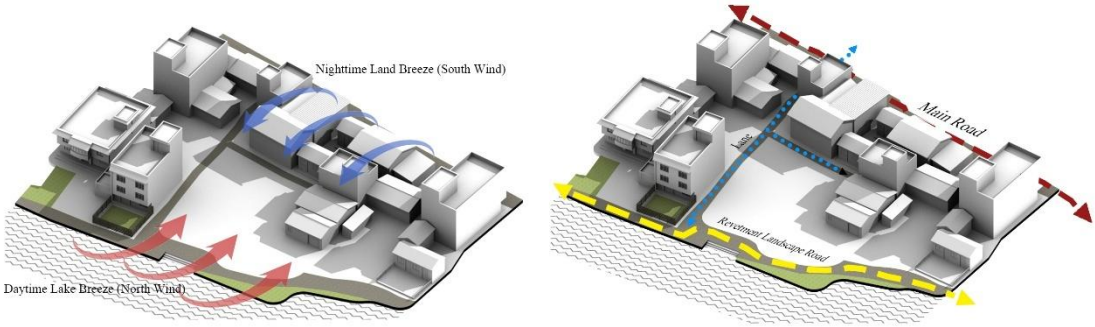


Figure 127 Direction of Wind and Traffic Conditions

During the day, the main wind direction is a lake breeze blowing from Dian Lake in the north towards the land, while at night the wind direction becomes a land breeze blowing from the land in the south towards the lake.

To the north of the site is an east-west oriented revetment landscape road; to the east is a lane connecting the village's main road with the landscape road; to the south is an alley leading to other village dwellings.

Observation Report

During the site analysis, the researcher intentionally prompted a primary participant in the previous round of design, to introduce Feng Shui concepts related to site orientation. This was done to stimulate awareness and discussion of traditional ideas among the co-design. The researcher then supplemented any key points that were omitted during the explanation.

Since Ms. Chen had already participated in the previous three rounds of design discussions, she was able to quickly understand and respond to the Feng Shui concepts introduced by Mr. Yang and actively engaged in the related discussion. In contrast, Mr. Xiao was still unfamiliar with this aspect and responded more slowly, as he had not yet developed a complete understanding framework.

After the site analysis, the decision regarding the overall orientation and

positioning of the building was given to the participants and the discussion group. It was observed that the co-designers were able to determine a reasonable building orientation on their own based on basic Feng Shui principles and made judgments consistent with traditional ideas.

4.5.2.2 Massing, Layout and Functions

The building massing in this design follows the prototype layout of traditional Yikeyin dwellings in its overall form, with the main house and the left and right side rooms enclosing a courtyard space at the core.

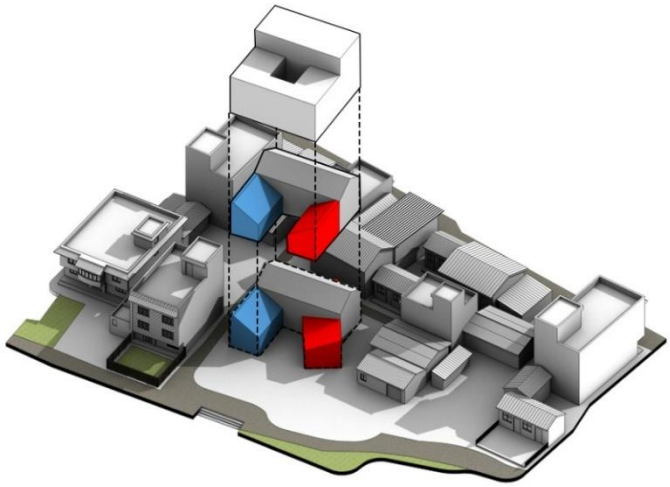


Figure 128 Massing Analysis

However, several adaptive adjustments and modifications were made to the specific composition:

1. the left side room was reduced from two stories to one, making the overall volume lighter.

2. To enlarge the courtyard scale, the left side room was rotated at a certain angle and offset outward from the original axis. This change weakened the sense of symmetrical enclosure in the traditional layout and making the overall space more open.

3. The Daozuo (Entrance Hall) was removed, meaning the courtyard is no longer completely enclosed and thereby breaking the square configuration of the traditional Yikeyin form.

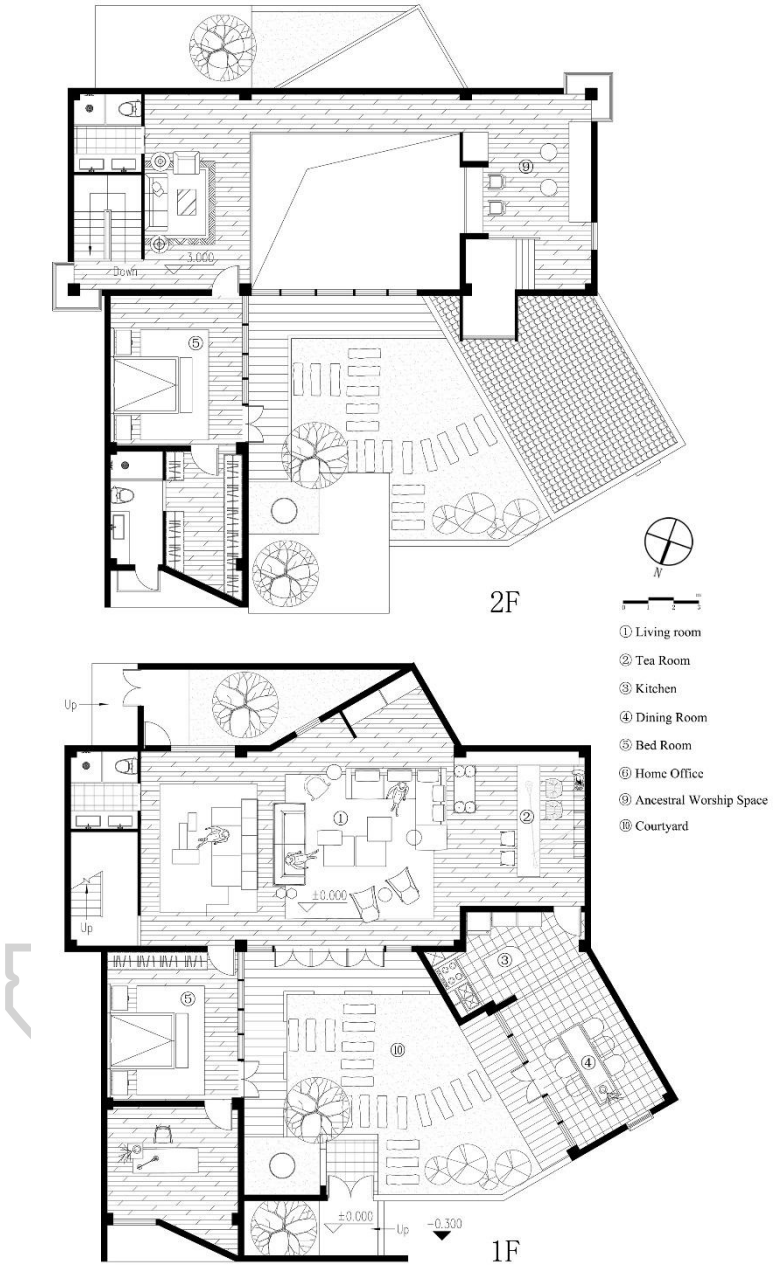


Figure 129 Design Layout Plan

The main hall is located at the center and serves as the living room. A toilet and staircase are situated on the left side, while a tea-drinking area is on the right. The second entrance is at the southeast corner of the building, reflecting the Taoist concept of “purple Qi coming from the East.” The second floor of the main hall features an open void in the middle; on the left is a service side room with a toilet and a bedroom, and on the right is a sacrificial space, with a small connecting area leading to the

outdoor balcony.

The left-side room has two floors, serving as a bedroom and study; the right-side room is single-story, with a kitchen and dining room.

Observation Report

The researcher did not deliberately guide the co-designers to respond to the Yikeyin architectural prototype in terms of building massing, layout, or function, but instead gave the co-designers full freedom. However, imitation of the traditional prototype appeared to be a default behavior among the co-designers. From the design process of volume, layout, and function setting, it can be observed that the design inspiration and references all came from the Yikeyin.

Regarding the spatial layout, Mr. Yang stated that the courtyard is relatively open, and a residential house on the west side of the building allows others to observe the daily life of the residents in the courtyard. Therefore, Mr. Yang hoped the courtyard could be made more private, similar to the original Yikeyin prototype. Mr. Xiao believed that breaking the square layout and the asymmetrical design of the side rooms caused the overall building form to lose the charm of the Yikeyin prototype. The rest of the discussion group generally agreed.

Regarding the functional setting, Mr. Yang and Mr. Xiao believed that additional functional spaces were needed and suggested adding a space with commercial functions. Ms. Chen insisted that the house should maintain its purity as a residential space.

It is worth noting that during the design process, all co-designers showed interest in Feng Shui philosophy and actively inquired about certain taboos related to spatial layout and their symbolic meanings, such as the prohibition against having a window in the back wall at the center of the main house (to prevent loss of Qi) and the use of a screen door (to block wind). In addition, the researcher explained some aspects of Taoist philosophy. The co-designers responded by acknowledging the courtyard's important role in dwellings as a carrier of Taoist, Confucian, and Feng Shui philosophies.

4.5.2.3 Materials and Decorations

Materials

Based on the previous round of design, the building's material system has been largely determined: the structure uses reinforced concrete, the exterior facade is uniformly painted with white architectural paint, and aluminum alloy glass windows are installed. In this round, AIGC technology was also applied to further identify the co-designers' preferences for material selection and style. On this basis, local optimizations and additions were made: some walls are finished with wooden composite panels, and the main and secondary entrances are constructed with light steel materials.

Figure 130 AIGC Visual Representation

Decorations

In terms of decorative design, some facades are finished with composite panels to enhance material layering. Screens with the “One-Grid Three-Arrows” pattern are installed in the corridor area as facade decorative elements. The entrance space features a lattice-patterned screen door, and the traditional architectural technique of “framed view” is used to create a layered entrance landscape.

In creating the overall spatial atmosphere, the concept of “tranquility” and the Taoist philosophy of “Harmony between Heaven and People” are referenced, with the introduction of natural elements such as trees and plants to reinforce the design concept of “learning from nature.”

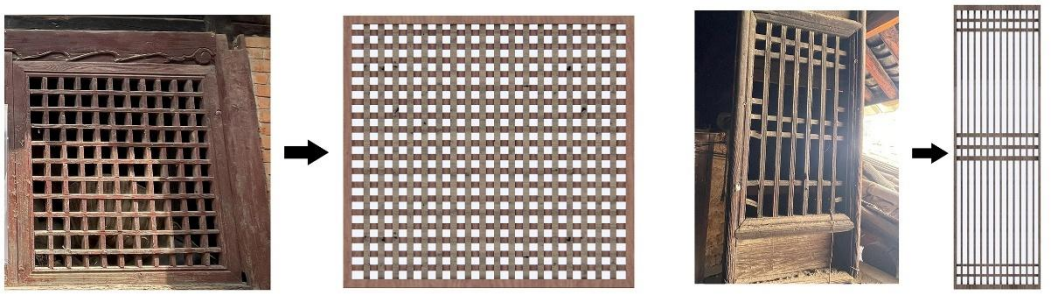


Figure 131 Screen Door and Grille Panel

Figure 132 Entrance Design Using the “Framed View”

Figure 133 Integration of Entrance and Landscape Planting

Observation Report

The co-designers and discussion group members raised few objections regarding material selection, reaching a consensus to continue using the material system adopted in the third round of design. In addition, Ms. Chen suggested

appropriately increasing some wooden architectural components to enrich the building decoration, which was supported by Mr. Yang and Mr. Xiao.

In terms of spatial design and treatment, the co-designers still find it difficult to independently manage the relationship between the building and its environment. Specific spatial details still need to be completed under the researcher's direction.

4.5.2.4 Proposal Representation

Figure 134 Architectural Axonometric Drawing

Figure 135 Architectural Rendering

Figure 136 Courtyard Rendering

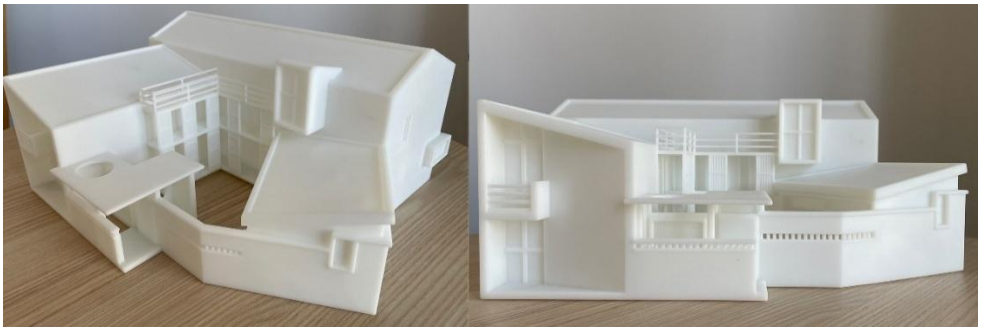


Figure 137 Physical Model

Figure 138 Architectural Elevation

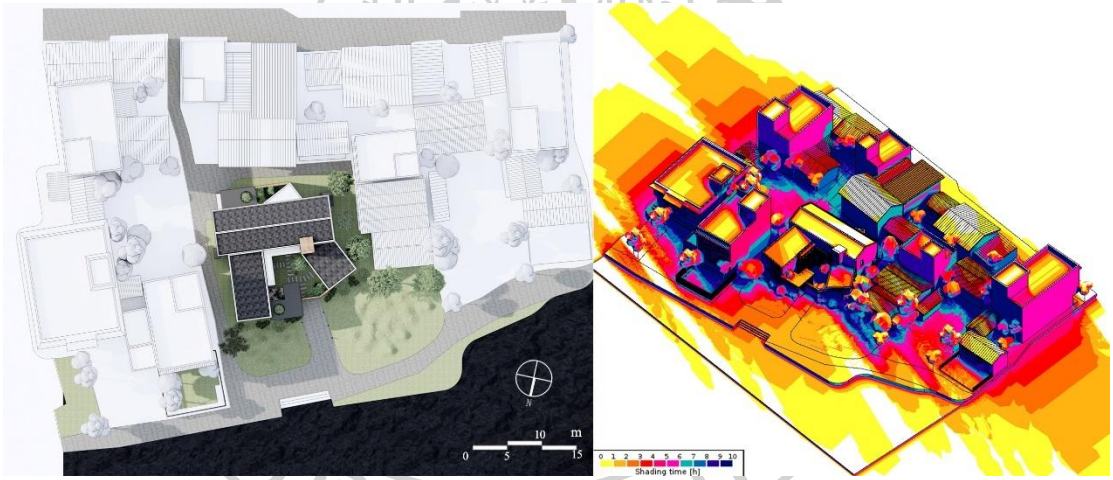


Figure 139 Master Plan and Shadow Analysis

4.5.3 Participatory Evaluation (PE) of Design

4.5.3.1 Analysis of Questionnaire Results

The variables and question settings in the questionnaire were consistent with those in the PE phase of the previous three rounds. To clearly reflect the impact of design adjustments across different rounds and the changes in residents' perceptions during the ongoing iterative process, questionnaire respondents were primarily selected from villagers who had participated in the previous three rounds of design and evaluation.

The following are the data results of the questionnaire survey:

Table 11 Data analysis of the round 4 design proposal

No.	Category	Mean	Variance	S.D.	95%CI
1	Similarity to Yikeyin	2.20	0.59	0.77	[2.02, 2.38]
2	Overall Satisfaction	3.68	0.36	0.60	[3.53, 3.83]
3	Satisfaction (Construction Costs)	4.49	0.32	0.57	[4.35, 4.63]
4	Satisfaction (Decoration)	4.29	0.50	0.71	[4.13, 4.45]
5	Satisfaction (Functionality)	4.43	0.38	0.62	[4.26, 4.60]
6	Satisfaction (Spatial Layout)	4.61	0.36	0.60	[4.46, 4.76]
7	Satisfaction (Material Selection)	4.32	0.50	0.71	[4.16, 4.48]
8	Willingness to Adopt	4.43	0.43	0.66	[4.24, 4.62]
9	Willingness to Recommend	4.27	0.55	0.74	[4.09, 4.45]

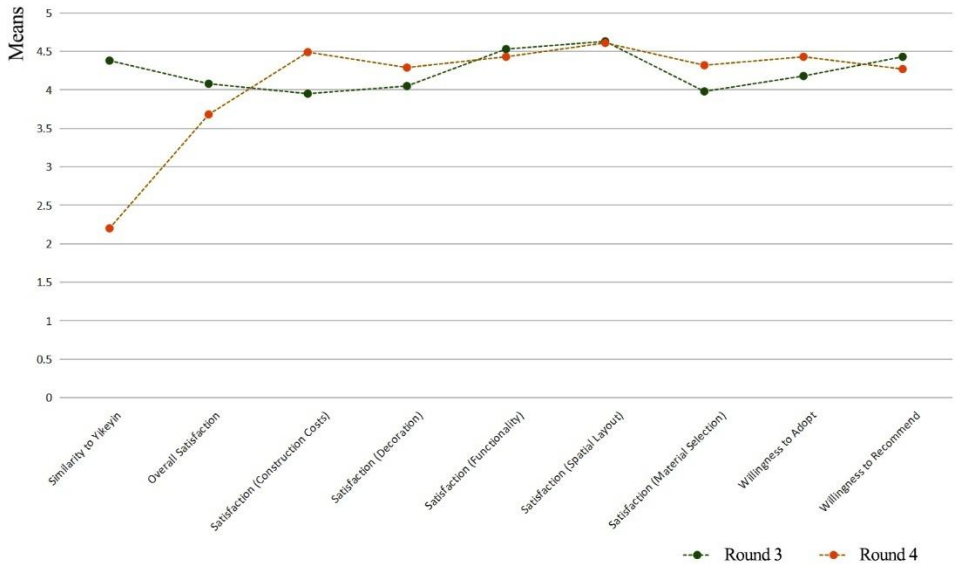


Figure 140 Line Chart of Means Value changes from Round 3 to the Round 4

From the data fluctuations, it is evident that compared to the previous round of data, this round of design attempts led to a significant decline in the recognizability of Yikeyin, as well as a noticeable decrease in overall satisfaction with the proposal and the willingness to promote it. Conversely, satisfaction with construction cost, decoration, material selection, and the willingness to adopt the proposal increased significantly.

The most noteworthy data in this group are overall satisfaction and willingness to adopt. According to the data, it is understandable that a decrease in overall satisfaction leads to a decrease in willingness to promote. However, the increase in willingness to adopt, despite a decline in overall satisfaction or identification with the proposal, is a clear contradiction. This issue should be a key focus in the in-depth interview stage.

Another variable that deserves attention is the recognizability of Yikeyin. Determining whether the decline in recognizability is the key factor in the decrease of overall satisfaction is particularly important for the modern expression of Yikeyin. If the design can clearly reference the traditional Yikeyin architectural prototype and this reference is identifiable to the public, will it enhance people's sense of recognition of the design? This directly influences the direction of the design process—whether designers need to consciously extract from the traditional prototype those visual features and tangible elements that are easy to identify and evoke memory, such as roof form, volume relationships, architectural color, and spatial layout, so that the new design is more easily associated with the traditional image of Yikeyin and establishes cultural continuity and a sense of recognition at the level of visual and spatial perception. At the same time, it is also necessary to clarify through interviews which specific factor in the design caused the decline in Yikeyin recognizability.

4.5.3.2 In-depth Interviews for Questionnaire Data Results

Causes of Reduced Recognizability of the Yikeyin

Villagers stated that the overall form of the design broke the square pattern of the traditional Yikeyin. Visually, it was no longer symmetrical, so the building no longer resembled a large seal. Although the side room and main hall on one side appeared similar to a Half-Yikeyin, the one-story side room on the other side disrupted this similarity. At the same time, the courtyard became more open, causing the sense of enclosure found in the traditional Yikeyin to disappear.

Overall Satisfaction and Identifiability

Villagers believed that the current design no longer possessed the characteristics of Yikeyin and could not reflect the local architectural culture. They acknowledged that the design had some aesthetic value, but felt it had lost its "tradition" and no longer represented the local identity, which they feared would lead to the decline of architectural culture. From the interview content, researchers clearly observed that, when making evaluations, villagers considered themselves protectors and communicators of architectural culture. They judged whether the design had local cultural value based on its similarity to the traditional prototype and directly used recognizability to measure their satisfaction with the design.

Contradiction between Willingness to Adopt and Overall Satisfaction

Villagers admitted that the lack of Yikeyin characteristics in the overall form was a main reason for the decline in satisfaction. However, they also stated that the building's rich functionality and open space allowed it to better meet the needs of contemporary life. In addition, they agreed with appropriately decorating some architectural components to enhance the building's aesthetic. From the perspective of living and use, such a space was indeed more suitable for living than traditional

Yikeyin dwellings, and they were willing to adopt this design. Overall, it can be seen that in the choice between functionality and cultural value, villagers tended to prefer functionality. This view made them willing to compromise on cultural factors to obtain a more spacious and modern living environment.

At the same time, villagers admitted that their evaluations included some subjective emotions. If factors such as design functionality and material selection were also considered comprehensively, the overall satisfaction scores might be higher.

4.5.4 Reflection on the Fourth Round of Design

4.5.4.1 Reflection on the Design Process

In the design process, co-designers generally used Yikeyin as the prototype when considering and developing the massing, layout, and function. According to path dependence theory, villagers do not possess the systematic architectural knowledge of professional designers, nor do they have the ability to integrate and transfer related knowledge. Their understanding of architecture and space mainly comes from their own living experience, daily observations, and long-term memory of local traditional construction methods. Therefore, when designing, they often rely on existing experience as the basis for judgment and creation, making it difficult to break away from their original cognitive framework. This also explains why their designs naturally continued the traditional pattern of Yikeyin even without guidance.

Co-designers showed an interest in philosophical connotations. Although they focused more on the symbolism and meaning that philosophy brings to architectural space, this at least demonstrates that the co-design process can serve as a platform for knowledge dissemination and understanding. This practice-based understanding is more effective in gaining feedback and resonance than direct verbal transmission.

4.5.4.2 Reflection on the Design Proposal

It is clear that economic efficiency and functionality of the design are the main factors people consider.

In interviews, villagers stated that they were more willing to allocate the construction budget to improving spatial scale. In other words, they aimed to obtain the largest usable space at the lowest cost. Therefore, the choice of building materials became their primary consideration. Regarding decoration, although villagers were willing to spend some money to enhance the building's overall aesthetics, when choosing between decoration and spatial scale, the latter was clearly more important.

In addition, with the development of tourism, villagers gradually began to redefine the function of dwellings on their own initiative. They no longer limited dwellings to basic residential use but actively converted some spaces for commercial purposes. This transformation indicates that the flexibility of contemporary dwelling functions has significantly increased. In design, this change provides an opportunity to break from traditional functional compositions and reminds designers to flexibly

adjust spatial function configurations according to actual needs rather than adhering to fixed models.

4.5.4.3 Reflection on the Design Evaluation

The recognizability of the Yikeyin prototype affects the public's satisfaction with the overall design, and this result also confirms previous expert judgments. Through multiple rounds of practice and communication with designers, people gradually developed a sense of cultural pride and responsibility to preserve tradition. Although their understanding of "preservation" remains relatively simplistic, this emotional awakening is positive and should be affirmed for the revitalization of Yikeyin. It encourages the public to recognize the existence of Yikeyin and to actively pay attention to its value.

When evaluating the recognizability of a proposal, people often rely on its visual similarity to the traditional prototype, and this identification mainly remains at the tangible level of visual recognition. This tendency reflects what design theory describes as the MAYA principle - "Most Advanced, Yet Acceptable." In other words, while the public is willing to accept new design expressions, these innovations must remain within a culturally acceptable range that still retains visible links to the traditional prototype. Therefore, in the design process, retaining or extracting easily recognizable tangible elements of the traditional prototype—such as the form of local components, spatial layout logic, and color composition—becomes an effective strategy to evoke public recognition of the representativeness and local cultural value of Yikeyin. As the cultural recognizability of the design improves, a perceptible connection is also established between modern design and traditional memory.

4.6 The Fifth Round of PAR

4.6.1 Participants of Action

According to the original plan, Ms. Chen was to be the main designer for this round. However, Mr. Xiao expressed strong interest in taking on the role, and since his family has more members, there may be more possibilities for layout and spatial functions. Therefore, the main designer for this round was changed to Mr. Xiao, while Mr. Yang and Ms. Chen participated as members of the discussion group.

4.6.2 Development of Design

The site selected for this round of design is the same as in the fourth round. Reinforced concrete is still used as the main structural framework material for the building.

The changes in this round of design are significant. Based on feedback from residents during the previous round's PE session, factors such as massing and layout affected the recognizability of Yikeyin. Therefore, the massing and layout will be readjusted in this round. Given the co-designers' strong interest in philosophical elements shown earlier, more philosophical content will be integrated into the design,

and ongoing discussions will be held with participants throughout the process.

4.6.2.1 Design of Messing and Layout

In designing the building massing and layout, the researcher introduced additional content on philosophical meaning and symbolism to the co-designers. In this design round, the goal was to generate spaces driven primarily by philosophical and spiritual elements, while adopting the square overall layout of the Yikeyin architectural prototype, aiming to achieve unity between tangible and intangible elements.

According to the previous analysis, it can be confirmed that in the traditional Yikeyin architectural prototype, the courtyard is the core space that embodies Taoist, Confucian, and Feng Shui philosophies. Therefore, in the design process, the location of the courtyard is determined first, and then the building space is extended outward with the courtyard as the center.

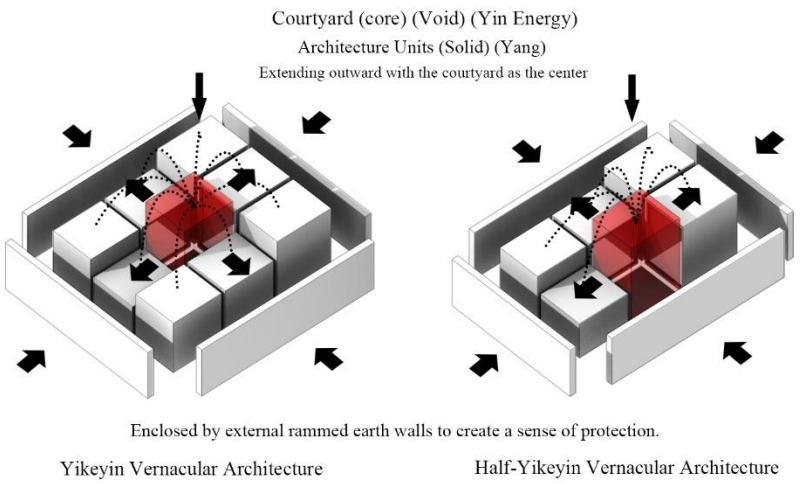


Figure 141 Philosophical Analysis of Messing

In Taoist philosophy, the courtyard represents Void and Yin energy, while the building units correspond to Solid and Yang energy. The combination of the courtyard and building units reflects the Taoist principle of the “mutual generation of void and solid” and the “balance of Yin and Yang.” At the same time, the inner courtyard, as an open space, serves as a medium for the building and its occupants to connect with nature, embodying the concept of “Harmony between Heaven and People.” It forms a “balance between openness and enclosure” with the building’s enclosed exterior walls.

According to the analysis of the main gate of Yikeyin in Feng Shui philosophy, the orientation of the main entrance and the building massing were addressed in greater detail in the design.

The original site directly faced the peak of Guanyin Mountain, but the gate

should face the mountain saddle so that Qi can flow into the building like water. Therefore, both the gate and the overall courtyard were slightly rotated to meet this requirement.

The roof has a sloped form, designed to embody the Feng Shui concept of “Four Waters Converge to the Courtyard” and gather Qi.

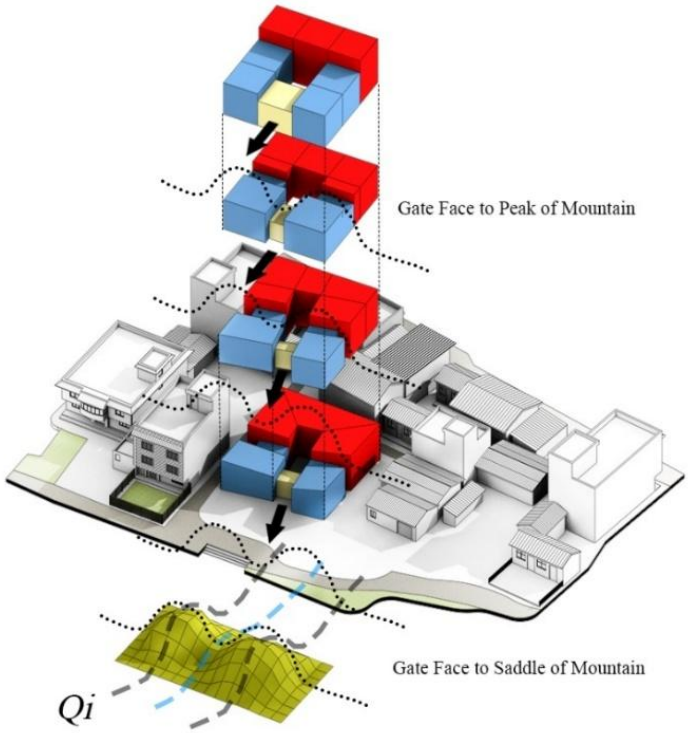


Figure 142 Gate face to the Saddle of Mountain

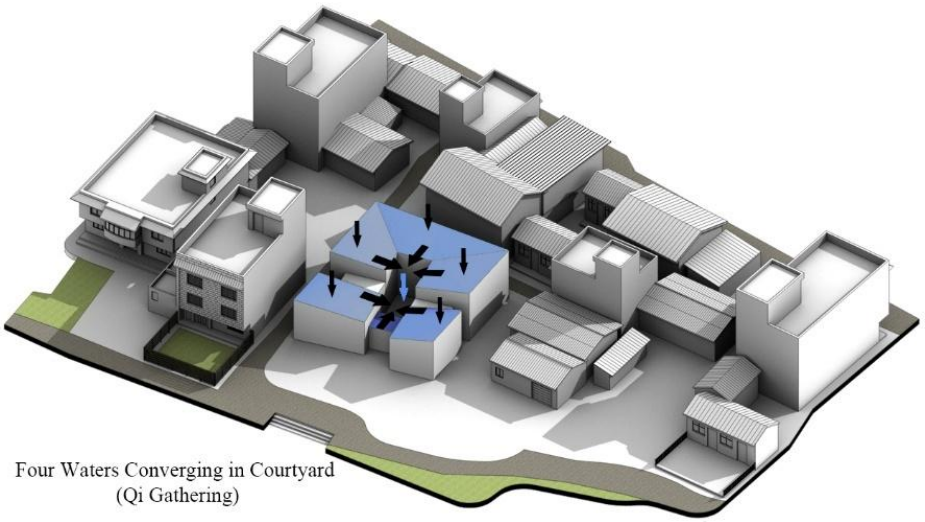


Figure 143 Four Waters Converge in the Courtyard

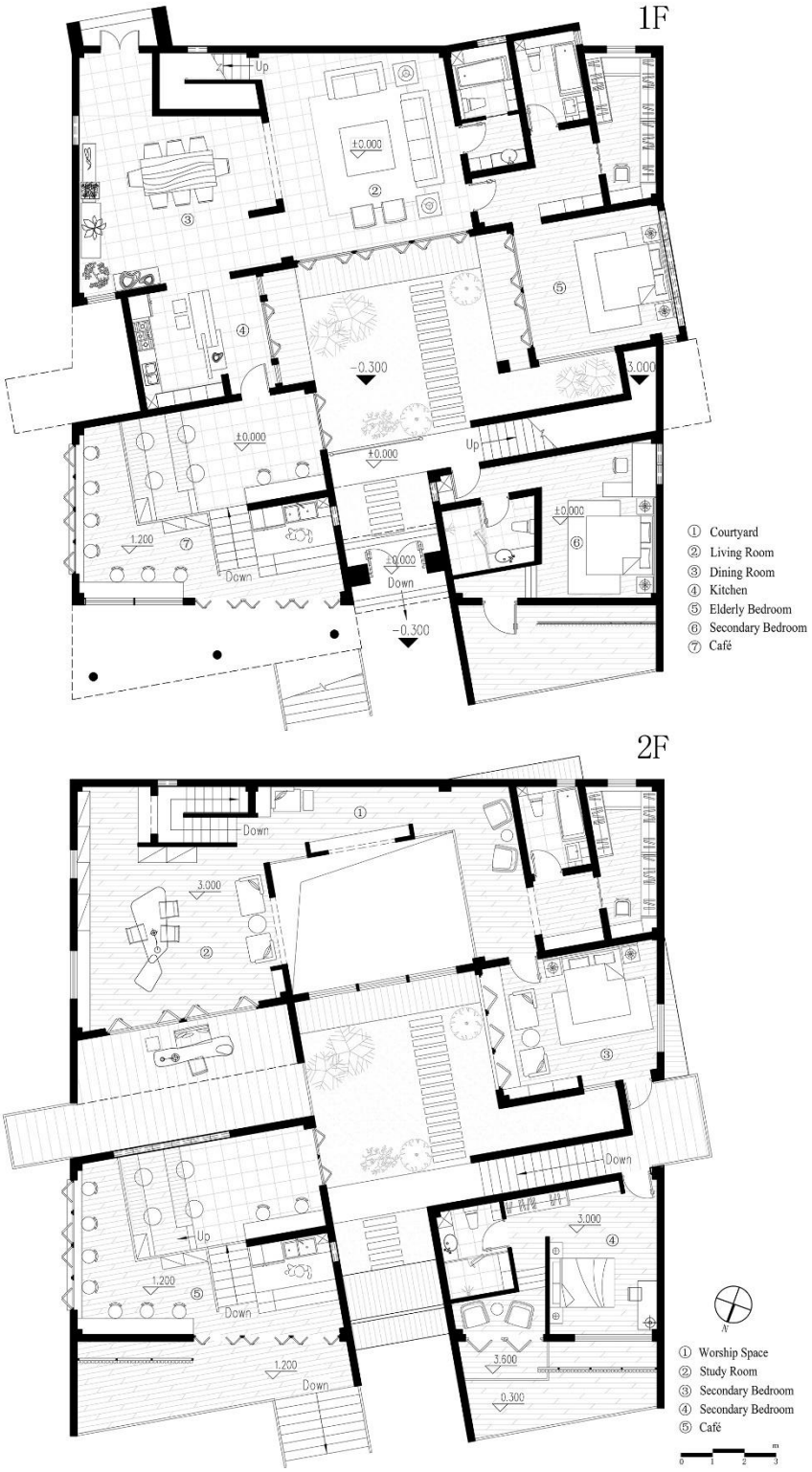


Figure 144 Design Layout Plan

Confucian philosophy emphasizes “Zhong Zheng” (central uprightness) and “Zhong He” (central harmony), which are expressed in architecture through the axial symmetry of building masses to create visual stability and order. To achieve this, the walls of the building units are adjusted to a specific angle according to the rotated orientation of the courtyard and the gate.

The living room occupies the central position on the first floor of the main building. On the left are the elder's master bedroom, bathroom, and walk-in closet. On the right are the dining room and the foyer of the second entrance. The second entrance is designed to reflect the Taoist concept of “purple Qi coming from the east.” The second floor is partially open to the floor below, with a worship space located at the corridor. The left room is the eldest son's bedroom, and the right room is the study.

The design of the side rooms departs from the original Yikeyin prototype. The left side room is connected to the main building, creating a single building unit. Additionally, a new building unit has been added to serve as a guest bedroom or a homestay for commercial use. The kitchen is located in the original position of the right side room and is connected to the café.

4.6.2.2 Decorations and Materials

The entrance gate represents a person's dignity in folk culture. To reflect the architectural prototype of Yikeyin, the researcher took the initiative to give it a decorative design.

The design took the basic form of the main gate from the Yikeyin prototype and used wooden strips to construct its decorative components, painting the strips red. Mr. Xiao stated that red represents good fortune in folk culture and also symbolizes “great fortune at the forefront” (Hong Yun Dang Tou; “红”运当头).

Figure 145 Design of the Entrance Gate

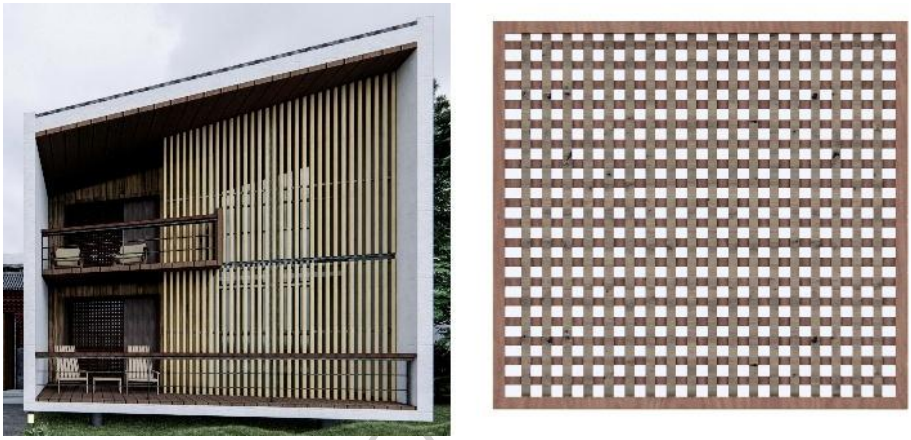


Figure 146 Decorations of Facade and Lattice pattern

In the design, bamboo was used to decorate the building's facade when the budget allowed. Bamboo is less expensive than wood, while wood was used for some doors and windows to enhance the building's aesthetic quality.

Lattice pattern was chosen as the main decorative motifs for the screen doors and the doors and windows.

4.6.2.3 Proposal Representation

Figure 147 Rendering of Architecture

Figure 148 Rendering of Main Entrance

Figure 149 Rendering of Courtyard 1

Figure 150 Rendering of Courtyard

Figure 152 Courtyard Rendering

Figure 153 Architectural Axonometric Drawing and Master Plan

Figure 154 Architectural Elevation

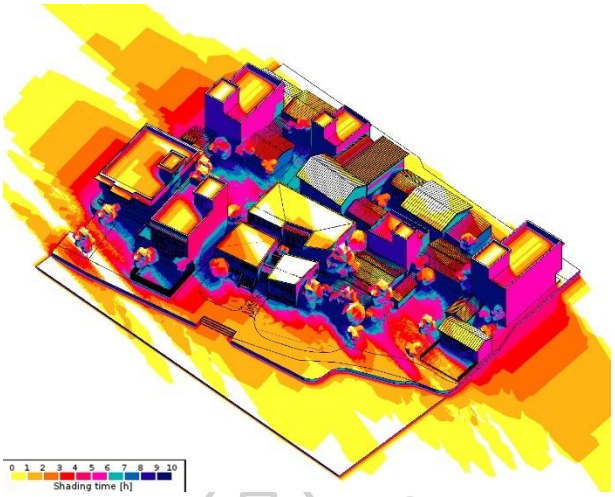


Figure 155 Shadow Analysis

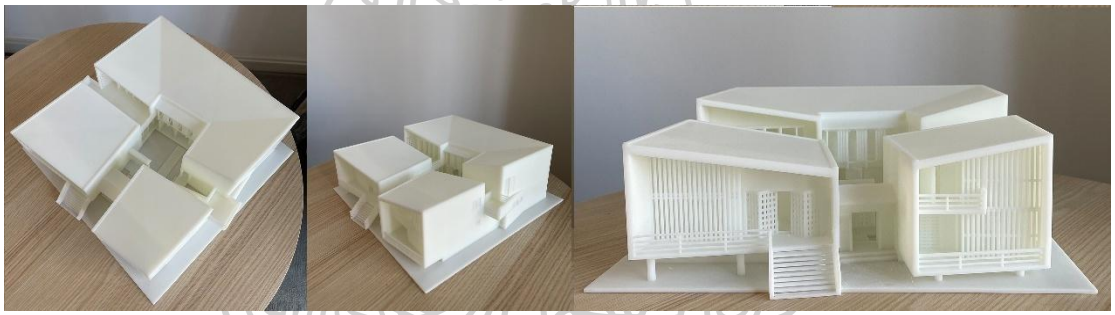


Figure 156 Physical Model

4.6.2.4 Observation Report

In this design phase, the floor plan was shaped by philosophical elements. According to feedback from the discussion group, they did not reject this design approach; on the contrary, they felt it added meaning to the design and deepened their understanding of philosophy. Notably, the philosophy-driven approach to spatial formation inspired Mr. Xiao, the lead designer. Mr. Xiao actively incorporated folk culture related to the main gate and applied it to the gate's color, giving the building greater meaning and symbolism.

All three co-designers generally recognized the design in terms of function, layout, materials, and decoration. Mr. Yang emphasized that this round of design was the one he was most satisfied with among the five rounds of practice. Ms. Chen noted that the cost was higher than in the previous round, but the newly added functions could generate income for the users, making it acceptable. She also no longer insisted that residential buildings must maintain functional purity.

Regarding the recognizability of Yikeyin, all three co-designers stated that although, from a visual perspective, this round of design is not as recognizable as the

first three rounds, it has already changed significantly compared to the fourth round. At the very least, the overall form of the building resembles a large seal.

4.6.3 Participatory Evaluation (PE) of Design

4.6.3.1 Analysis of Questionnaire Results

The following are the results of the questionnaire survey:

Table 12 Data analysis of the round 5 design proposal

No.	Category	Mean	Variance	S.D.	95%CI
1	Similarity to Yikeyin	3.12	0.61	0.78	[2.94, 3.30]
2	Overall Satisfaction	4.45	0.34	0.58	[4.29, 4.61]
3	Satisfaction (Construction Costs)	4.84	0.14	0.37	[4.74, 4.94]
4	Satisfaction (Decoration)	4.65	0.27	0.52	[4.48, 4.82]
5	Satisfaction (Functionality)	4.84	0.14	0.37	[4.74, 4.94]
6	Satisfaction (Spatial Layout)	4.80	0.17	0.41	[4.70, 4.90]
7	Satisfaction (Material Selection)	4.71	0.21	0.46	[4.58, 4.84]
8	Willingness to Adopt	4.73	0.20	0.45	[4.61, 4.85]
9	Willingness to Recommend	4.57	0.33	0.57	[4.41, 4.73]

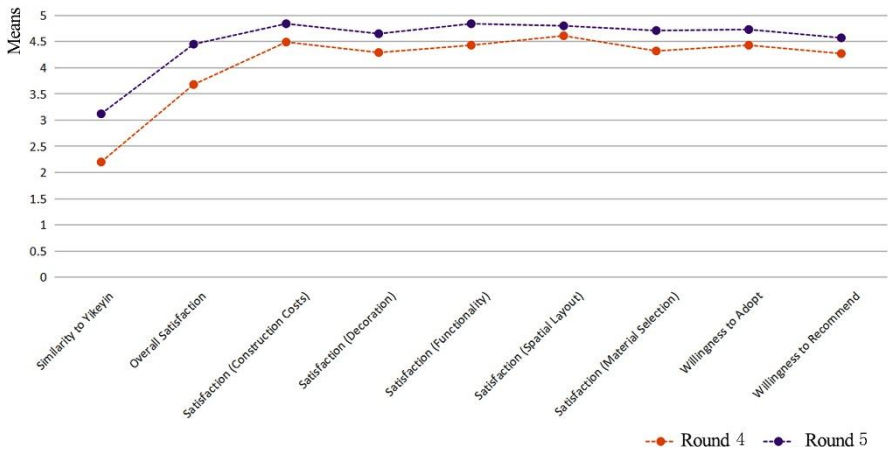


Figure 157 Line Chart of Means Value changes from Round 4 to the Round 5

The data show that, compared to the fourth round of design, this round has improvements in all aspects, especially in the recognizability of Yikeyin and overall satisfaction with the proposal.

What deserves in-depth discussion is which design factor enabled residents to recognize the characteristics of Yikeyin, and which factor was prioritized when evaluating overall satisfaction.

4.6.3.2 In-depth Interviews for Questionnaire Data Results

Villagers stated that when identifying Yikeyin features in the design, the most important aspects were the building's square massing and layout, its resemblance to a large seal, and the inclusion of a central courtyard.

During evaluations, villagers prioritized building materials and spatial scale above other factors. They indicated that the designer's pre-set functions had little impact on their decision-making. As the actual end-users, they emphasized the need for large, flexible spaces that could meet the demands of modern life. A key finding was that most contemporary self-built houses have eliminated the traditional courtyard, primarily to maximize indoor living area.

When asked whether the improvement in recognizability was the key to the factor in their increased satisfaction, participants indicated a nuanced view. They explained that while materials had been replaced and the overall design reflected that of modern housing, they accepted the use of new materials, functions, and layout.

Crucially, they also expressed an understanding that some features of Yikeyin would inevitably be lost during a of modern transformation. Their acceptance was conditional on the retention of certain key traditional features; as long as some core characteristics were preserved, the modern adaptations were deemed acceptable.

4.6.4 Reflection on the Fifth Round of Design

4.6.4.1 Reflection on the Design Process

The creation of space influenced by philosophical and spiritual elements is feasible in the modern transformation of vernacular dwellings. Intangible philosophical elements often require architectural space to embody them. For example, in Yikeyin, the courtyard is the most important and central space that embodies philosophical elements. If the philosophical elements in vernacular architecture are identified before design and their corresponding spatial core is determined, the new design will, to a large extent, possess a certain philosophical connotation.

4.6.4.2 Reflection on the Design

New functions, materials, and larger spaces are inevitable in the modern transformation of Yikeyin. These changes will inevitably cause the design to lose some features of the traditional architectural prototype. Designers need to focus on how to design in a way that both retains certain prototype features to respond to tradition and adapts to people's new living needs.

4.6.4.3 Reflection on the Design Evaluation

When the public evaluates architecture, the main concerns are the building's economic efficiency, spatial scale, and functionality. Therefore, these factors should be prioritized in the design process.

From the perspective of tangible and intangible elements of architecture, the tangible elements directly affect building users, while the intangible elements are often missing or forgotten. These intangible elements are also the aspects that

designers need to pay the most attention to during the process of reviving Yikeyin.

4.7 Summary of Reflections on the Five Rounds of Participatory Action Research

The following are the specific adjustment approaches and reflections for each round.

Table 13 Five Rounds of Design Adjustments and Illustrations

Round	Adjustment Focus	Model Illustration
1	-	
2	- Material adjustment - Localization of material and decorative expression	
3	- Spatial layout - Functional configuration - Formal language	
4	- Site - Volume and space - Spatial scale	
5	- Design method - Volume and space	

Table 14 Design Actions and Reflections Across Five Rounds

No.	Design Actions	Reflections
1	- Design on original site - Use of light steel structure - Retention of traditional components and decorations - Integration of traditional patterns (e.g., lattice windows, screen doors) - Philosophical knowledge dissemination	Villagers acknowledged the design strategy and site choice but were more concerned with economic efficiency and material practicality. Although traditional details enhanced familiarity, the public generally lacked a philosophical foundation and could not perceive the cultural depth behind the forms.
2	- Use of local materials and construction methods - Decoration localized to vernacular aesthetic	Materials carried symbolic and social meanings. Villagers favored familiar and dignified methods, rejecting materials associated with poverty. Their recognition was based on both familiarity and class-based perceptions. This round emphasized the importance of authentic feedback; researchers needed to identify performative responses, assess recognition of tangible factors, and build trust.
3	- Introduction of modern spatial layouts (e.g., platform spaces) - Functional adjustments to suit daily routines - Use of modern formal language (e.g., glass windows, white walls)	Modern forms were well received, indicating compatibility between tradition and modernity. Villagers accepted spatial and functional flexibility and preferred larger spaces. Satisfaction became tied to the feasibility of construction, suggesting that willingness to adopt did not fully equate to cultural identification.
4	- Change of site (no existing foundation) - Continuation of previous materials and construction - Redesign of volume and space (breaking the prototype) - Enlarged volume to improve spatial efficiency	Decreased recognizability of the prototype affected overall satisfaction. Villagers became aware of the extent of change. Some began to see themselves as cultural protectors, though their understanding of “preservation” remained formal. Despite increased willingness to adopt, their acceptance was influenced more by function and cost than by cultural values.
5	-Philosophically driven spatial generation logic - Responding to the Yikeyin prototype - Integration of additional philosophical content - Expansion of interior space	Tangible elements that corresponded to the prototype significantly enhanced recognizability. Philosophically generated spaces were generally well accepted. Spatial scale, functionality, and economy remained key factors in public evaluation, and tangible expressions with identifiable prototype features effectively supported tradition and improved satisfaction.

Based on the above five rounds of design actions and reflections, the following conclusions can be summarized:

1. People generally lack an understanding of the spiritual aspects of Yikeyin vernacular dwellings. Although emotional memories formed

through long-term use of Yikeyin have been preserved, the deeper philosophical connotations remain vague, especially regarding Taoist philosophy, which is often overlooked. However, people are not resistant to learning and understanding philosophy, particularly Feng Shui philosophy, whose symbolism and meaning reflect people's longing for a better life. Philosophical elements and cultural concepts are the aspects that have been forgotten during the evolution of traditional Yikeyin dwellings and are what need to be revived.

2. People are unable to perceive or identify the philosophical elements underlying the architecture. The main reason is that the public lacks foundational knowledge. Therefore, if only the design proposal is presented without a description of the specific design actions, the public cannot perceive the intangible spiritual value the designer intends to convey. This also results in the design proposal failing to serve as a medium for reviving the traditional philosophy and spirit of Yikeyin. Thus, the design process is not only the presentation of material space but also needs to be accompanied by a mechanism for conveying cultural meaning.
3. To revive the forgotten intangible elements, a platform is needed to connect villagers and designers. During the co-design process, through continuous communication with the designer, the co-designers demonstrated that they could actively understand and reinterpret philosophical content. Therefore, the co-design process serves as the medium for spreading intangible elements and achieving the goal of reviving the philosophy behind Yikeyin.
4. The development of the times has brought new demands for dwellings. The design must respond to the site, climate, and other conditions, while also addressing people's needs for functionality, economic efficiency, and comfort. It even includes some irrational factors, such as people's preferences or aversions to certain materials. In material selection, it is necessary to consider not only inherent physical properties but also people's reactions to the material's social meaning and perceived value.
5. Although people pay more attention to factors such as the use, function, and economy of buildings, they still depend on familiar architecture. Long-term use and residence in traditional buildings have given the public a sense of belonging and identity. While fostering cultural pride in a particular architectural tradition, a sense of cultural boundary has also emerged. The most direct reflection of this is that the responsibility to preserve tradition leads people to consider the degree of similarity between a design and the traditional prototype as one of the criteria for evaluating satisfaction. Their judgment of recognizability is mainly

based on visual experience, specifically comparing tangible elements through visual observation.

6. To enhance the recognition of the design, designers need to extract the tangible elements from the traditional prototype so that modern design expressions retain certain traditional prototype features and can be recognized by the public. Extraction does not mean copying, but identifying representative elements and re-presenting them using contemporary design language. Only in this way can the traditional prototype reconstruct its cultural recognizability in modern expression.

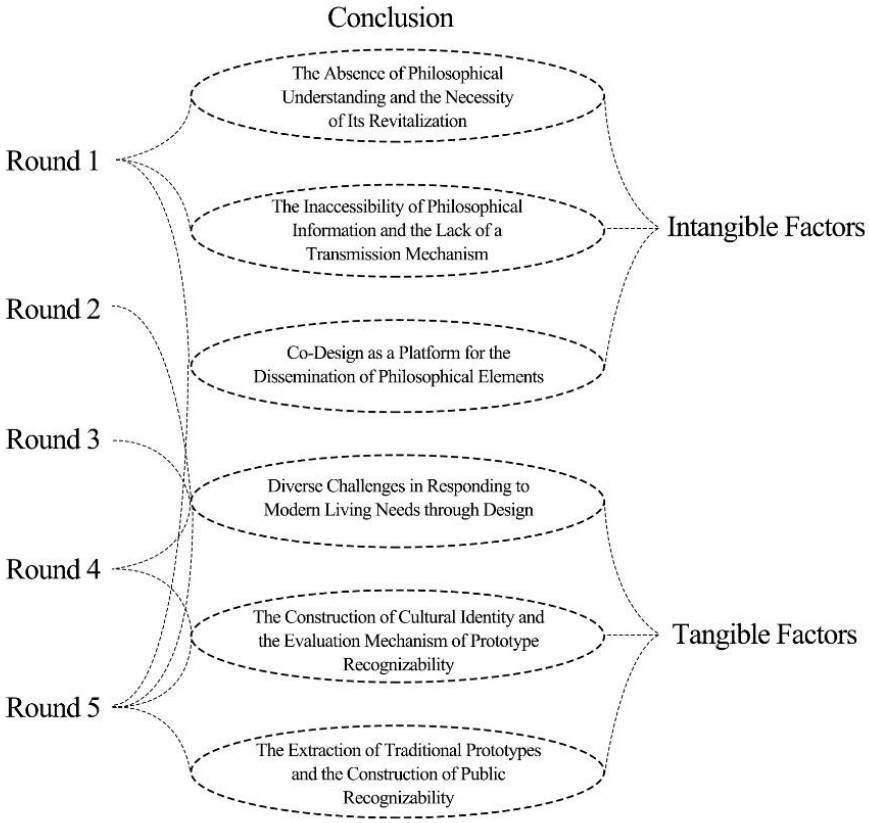


Figure 158 Diagram of Conclusion Sources

4.8 SPIRIT Design Model for the Modernization of Vernacular Dwellings

4.8.1 The Meaning of the SPIRIT Design Model

The SPIRIT design model is proposed based on the six conclusions summarized from the five rounds of PAR practice. Each letter represents the following:

S: Spirit Identification

P: Participatory Platform

I: Intangible Spatialization

R: Responsive Contextual Adaptation

I: Identification of Tangible Prototype Elements
T: Tangible Design Response

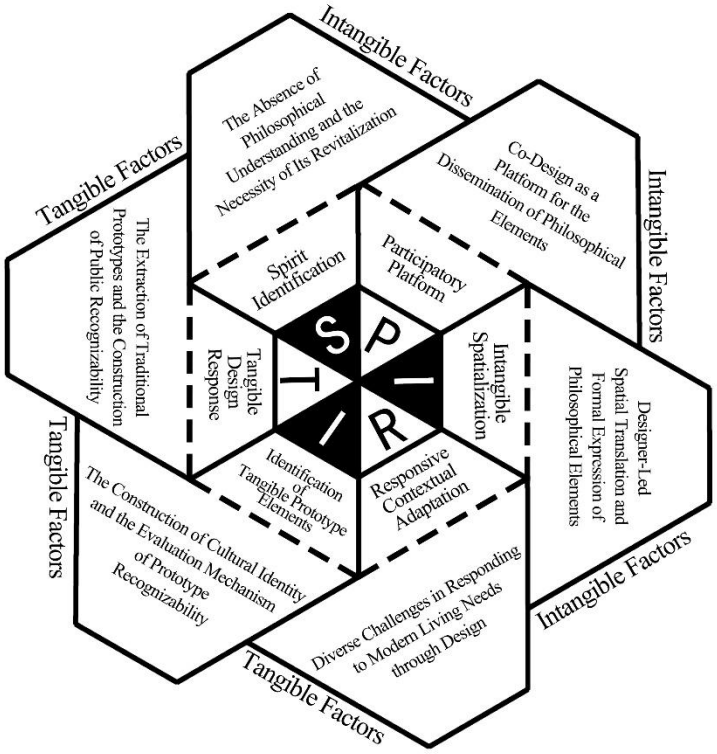


Figure 159 SPIRIT Design Model

Spirit Identification (S)

In the evolution from vernacular architecture to contemporary architecture, spiritual and intangible elements, such as philosophical connotations and folk culture, are often forgotten. Before beginning the design process, designers should clearly identify these intangible aspects present in vernacular architecture—specifically, which elements have been neglected and which spiritual components need to be addressed and reawakened through design.

Participatory Platform (P)

Due to a lack of philosophical knowledge, the public is often unable to recognize the philosophical values embedded in architectural design. Therefore, designers should establish a platform for direct dialogue between themselves and the public, enabling ongoing communication through which the public can learn about and understand the philosophical concepts the designer intends to convey. In addition to Co-Design, workshops or lectures on philosophical knowledge can be organized before the design process begins. However, Co-Design is more strongly recommended, as it not only achieves these objectives but also allows designers to

directly understand the genuine thoughts of the villagers. Additionally, joint practice helps build a relationship of trust between designers and villagers.

Intangible Spatialization (I)

In traditional vernacular architecture, intangible elements such as philosophy, belief, and ritual are often associated with specific spatial compositions. These elements are not communicated through explicit language but are implicitly conveyed through spatial layout, orientation, circulation, and scale. Therefore, in contemporary practice, designers should extract the carriers of intangible elements from these spatial logics and re-express them spatially. For example, in Yikeyin, the courtyard is not only a functional space but also the core structure that embodies ritual, order, and cosmology. By identifying and reconstructing such spaces, design can reintegrate neglected spiritual content into modern architecture, allowing traditional cultural meanings to persist through transformations in form.

Responsive Contextual Adaptation (R)

With the development of society, people have new demands for living spaces. Architectural design must respond to site conditions and climatic characteristics, while also meeting functional, economic, and comfort requirements for contemporary lifestyles. Design should address practical needs and be adapted with a comprehensive understanding of cultural, economic, environmental, and social factors.

Identification of Tangible Prototype Elements (I)

In vernacular architectural prototypes, tangible elements are the primary basis for the public to recognize architectural culture. These elements include building form, spatial layout, construction methods, colors, materials, and decorative details. For example, Yikeyin's square and enclosed layout, central courtyard, symmetrical axis, heavy gable walls, and colors together form prototype features with significant recognizability. In the process of modern design transformation, designers should first identify these representative and culturally symbolic tangible elements, then extract, summarize, and classify them to establish a clear cognitive framework of the prototype.

Tangible Design Response (T)

After clarifying the tangible elements in the traditional architectural prototype, the design should neither simply replicate these traditional forms nor make them the sole focus. However, as the primary basis for public recognition of architectural culture, these elements should be included as one of the dimensions considered in the design. The public's perception of architecture often originates from sensory memories of familiar forms, materials, and spatial relationships. When these familiar elements are present in a new building, they can evoke emotional connections

to traditional life, generating a sense of belonging and cultural resonance. In this way, responding to tangible elements helps enhance the public's understanding and recognition of the design, allowing new architecture to retain a certain degree of cultural continuity within modern construction.

4.8.2 The Significance of the SPIRIT Design Model

This model applies not only to the design transformation of Yikeyin but can also be extended to the modernization of other types of vernacular dwellings in China, as the homogenization of contemporary rural housing is a widespread issue. At the same time, this design approach considers both intangible and tangible dimensions. While preserving the spiritual core of traditional culture, it addresses practical usage needs and adapts to local conditions. It focuses not only on the reproduction of form but also on the reconstruction of cultural meaning and the establishment of public recognition, providing a practical and expandable systematic approach for the contemporary expression of vernacular architecture.

4.9 New Dwelling Design Experiment

In the fifth round of PAR practice, the author reflected on a question: In situations with relatively few practical constraints, directly addressing the tangible elements in the Yikeyin prototype is the most convenient and fastest way to achieve prototype recognizability. However, if more restrictive conditions are present, making it difficult for the design to directly respond to the prototype features of Yikeyin, then determining how to proceed with the design becomes a direction worth further exploration.

In the fifth round of the PAR process, the square layout of the building massing made its formal characteristics more closely resemble a large seal, directly responding to the overall visual features of Yikeyin. However, on a long and narrow site, the design cannot maintain the original square layout, and the overall form would struggle to convey the same sense of solidity and completeness as a "large seal." Therefore, the design approach based on the tangible elements of the Yikeyin prototype must be reconsidered and adjusted in this context.

A direction worth referencing was already proposed in previous design practices: to start from intangible elements and generate space driven by philosophical factors. In future development, new architectural forms will inevitably impact existing architectural prototypes, but the philosophical connotations carried by traditional architecture may be preserved and continuously sustained. Therefore, this design approach is not only an exploration of formal transformation but also provides a new path and idea for the contemporary expression and ongoing revitalization of vernacular architecture.

4.9.1 Participants of Action

This new design experiment is a conceptual proposal, with the researcher as the primary designer. Mr. Yang, Ms. Chen, and Mr. Xiao serve as advisors. Although

they do not directly participate in the design process, their opinions will be consulted as references for adjusting and refining the design proposal.

4.9.2 Design Process and Proposal Presentation

4.9.2.1 Site Analysis

The site for this experimental design is located near the sites of the fourth and fifth round designs. Several damaged buildings remain on the site. The overall shape is rectangular. The south side is adjacent to the main road of the village, the north side faces Dian Lake, and the east and west sides are surrounded by other dwellings. To ensure the privacy of the building, the orientation of the windows is greatly restricted, and windows can only be opened on the south and north sides.

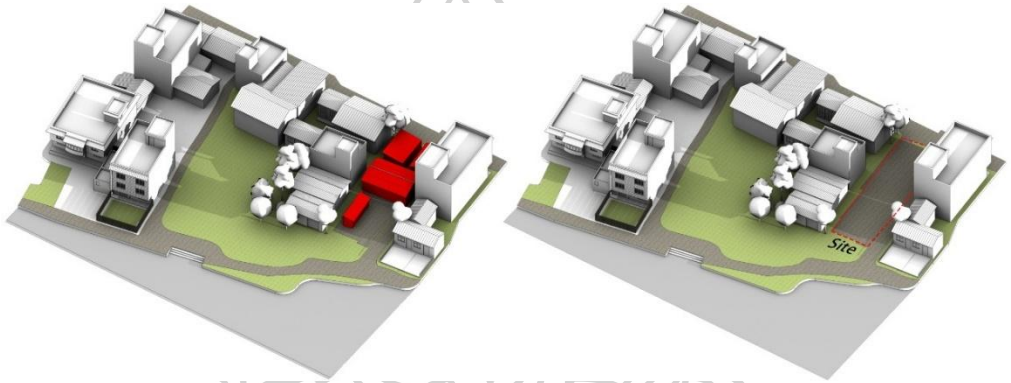


Figure 160 Design Site

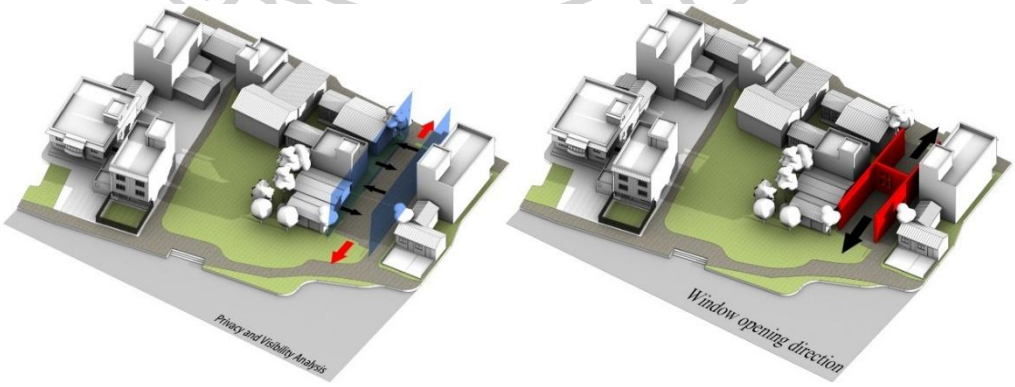


Figure 161 Analysis of Site Visibility Conditions

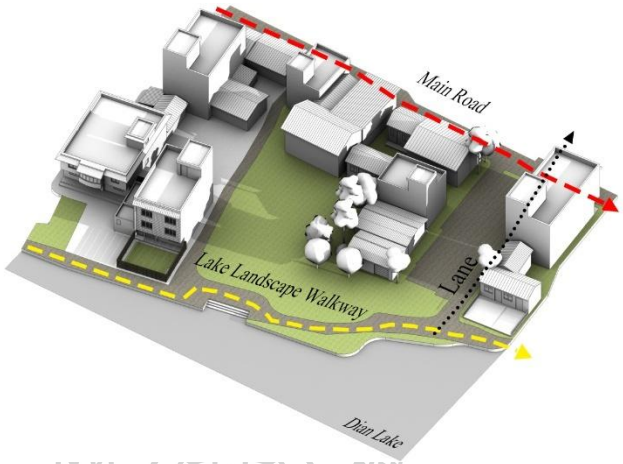


Figure 162 Analysis of Site Accessibility and Traffic Conditions

4.9.2.2 Architectural Massing Design

This design continues the strategy of the fifth round, using philosophical elements to guide the creation of space. The courtyard, as the central area embodying philosophical and spiritual elements, is first positioned within the site, and then the building units gradually extend outward from the courtyard.

To reflect the Feng Shui concept of "four waters converging into the courtyard," the roof is designed with a sloped form. Additionally, four-sloped skylight components are installed on the main building's roof to echo the image of "four waters converging into the hall."

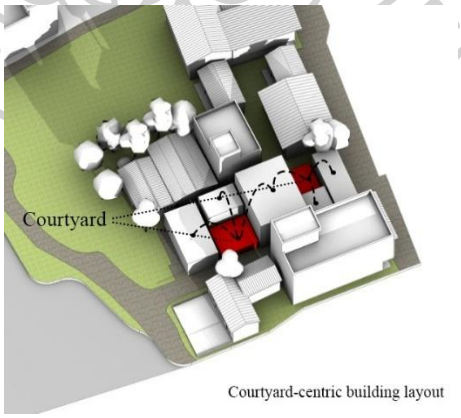


Figure 163 Courtyard-Derived Architectural Units

The main gate directly faces the mountain saddle of the distant Guanyin Mountain. The design also incorporates the Feng Shui principle of "having a backing mountain," translating the mountain's undulating lines into the building's south-facing

street façade and giving the structure philosophical symbolism.

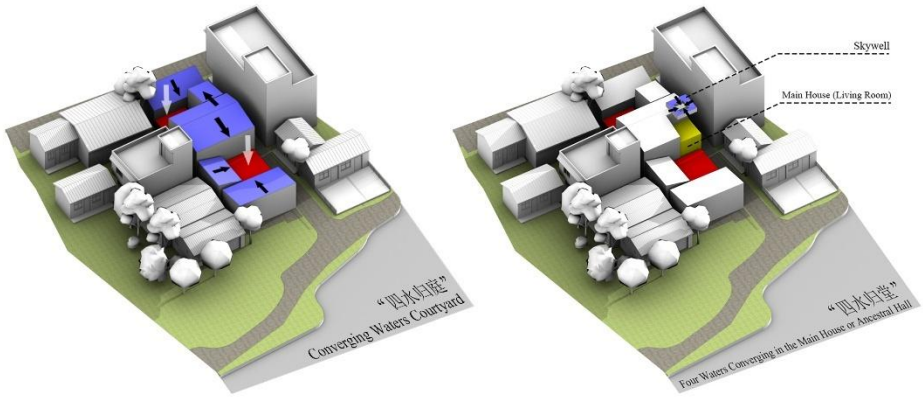


Figure 164 “Four Waters Converging into the Courtyard” and “Four Waters Converging into the Hall”

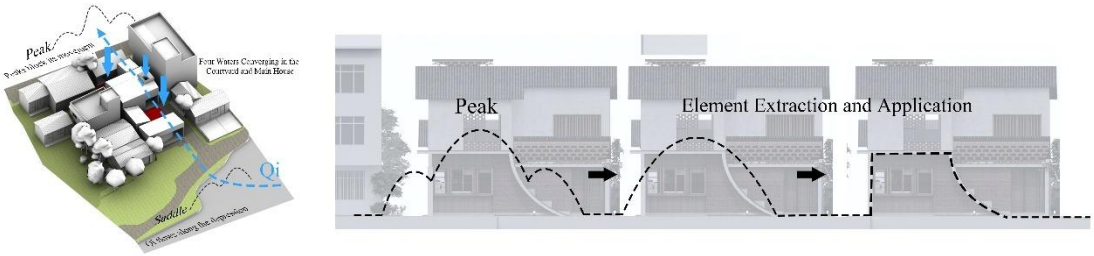


Figure 165 Design Response to Feng Shui Philosophy

Unexpectedly, when the building massing proposal was presented to the discussion group, Mr. Yang stated that this layout was very similar to the traditional Half-Yikeyin form. The scheme echoes the previously mentioned “L+I” structure in its spatial organization and further develops into an “I+L+I” layout.

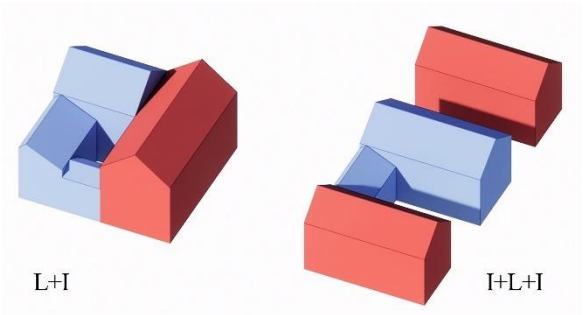


Figure 166 Layout of “L+I” and “I+L+I”

4.9.2.3 Functional Configuration and Floor Plan Layout

This proposal features a three-part "outside-inside-outside" layout. The south side contains a street-facing snack bar open to the public. The central main building serves as the core of family life and spiritual activities. The north side includes a tearoom and reception area, functioning as a secondary outward-facing social space. This arrangement reflects the Confucian spatial order of "distinction between inside and outside" (Nei Wai You Bie; 内外有别), establishing a clear ritual hierarchy through the separation of functions and user groups. Meanwhile, the central courtyard running through the proposal acts as a "void" space, linking each section and mediating between movement and stillness, illustrating the Taoist spatial logic of the "mutual generation of void and solid."

The members of the discussion group were generally satisfied with the proposal's functional layout.

Figure 167 Design Layout Plan

4.9.2.4 Decorations and Materials Selection

This experimental design largely continues the strategies from the PAR practice, using reinforced concrete as the building's main structural system. To align with local construction practices, red brick is used for the walls, and doors and windows combine aluminum alloy and wood. The window decorative pattern features “one grid with three arrows,” and the entrance screen door uses the “step-by-step brocade” pattern.

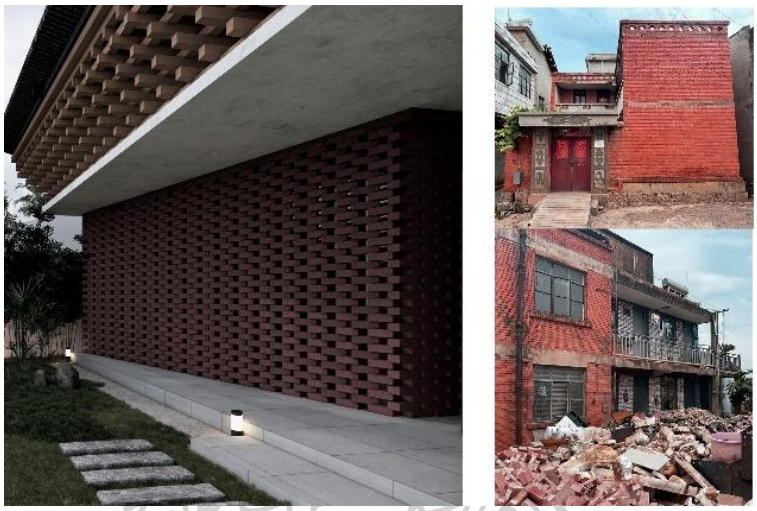


Figure 168 Red Brick for the Walls

Figure 169 Patterns of Window and Screen Door

Mr. Xiao stated that the decorative approach used for the main gate in the fifth round could continue in this design, but noted that using solid wood components would significantly increase construction costs. However, all group members agreed that the wooden components improved architectural aesthetics. Therefore, the researcher selected wood-textured components made of fiber-reinforced polyurethane composite (FPC) material as a substitute, which retains the wood grain texture while reducing decorative costs.

Figure 170 Decorations of Entrance and Skylight Component

4.8.2.5 Proposal Representation

Figure 171 Architectural Axonometric Drawing and Master Plan

Figure 172 Rendering of Architecture and Main Entrance

Figure 173 Courtyard Rendering

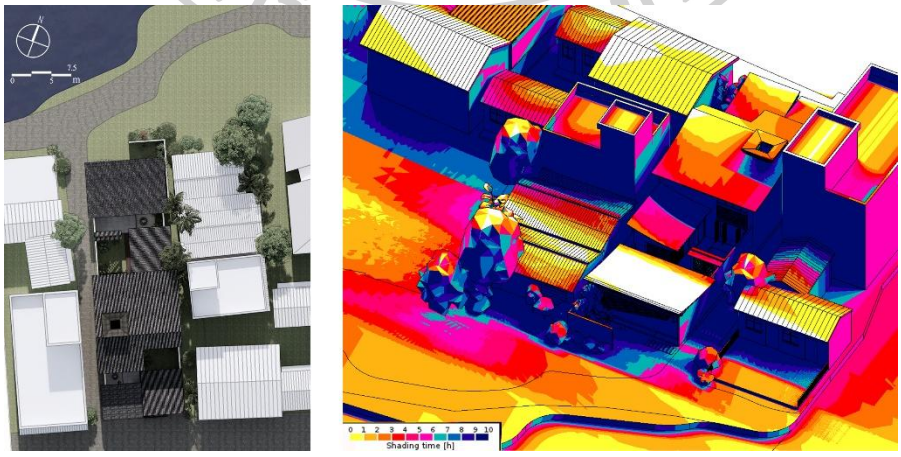


Figure 174 Master Plan and Shadow Analysis

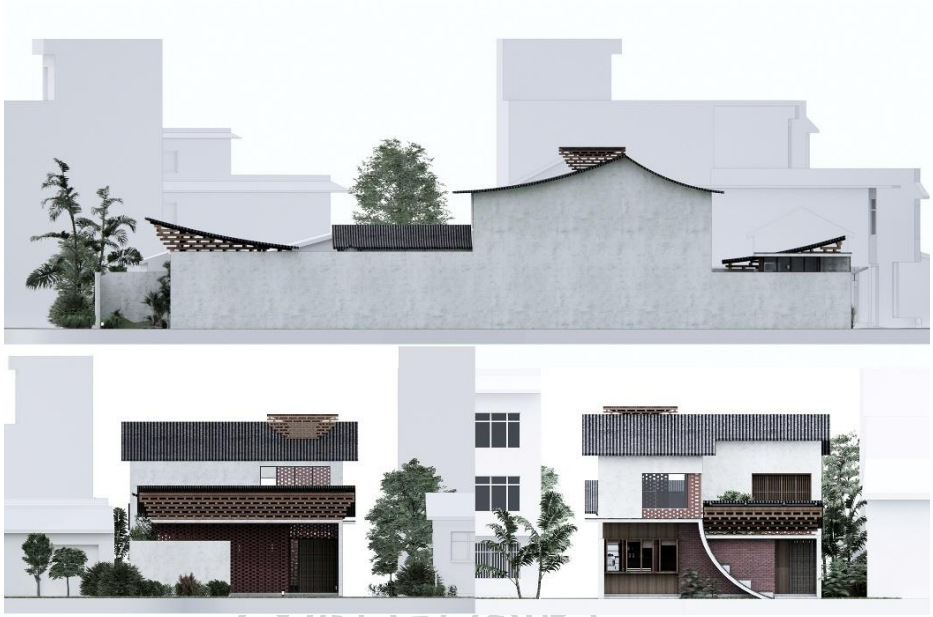


Figure 175 Architectural Elevation

4.9.3 Public Evaluation

4.9.3.1 Data Analysis

The public evaluation process consists of a questionnaire and in-depth interviews. The following are the results of the questionnaire survey.

Table 15 Data analysis of the New Design Attempt

No.	Category	Mean	Variance	S.D.	95%CI
1	Similarity to Yikeyin	2.54	0.38	0.61	[2.37, 2.71]
2	Overall Satisfaction	4.42	0.25	0.50	[4.28, 4.56]
3	Satisfaction (Construction Costs)	4.70	0.26	0.51	[4.56, 4.84]
4	Satisfaction (Decoration)	4.90	0.09	0.30	[4.81, 4.99]
5	Satisfaction (Functionality)	4.64	0.24	0.48	[4.50, 4.78]
6	Satisfaction (Spatial Layout)	4.48	0.25	0.50	[4.28, 4.56]
7	Satisfaction (Material Selection)	4.84	0.14	0.37	[4.73, 4.95]
8	Willingness to Adopt	4.64	0.24	0.48	[4.50, 4.78]
9	Willingness to Recommend	4.20	0.49	0.70	[4.00, 4.40]

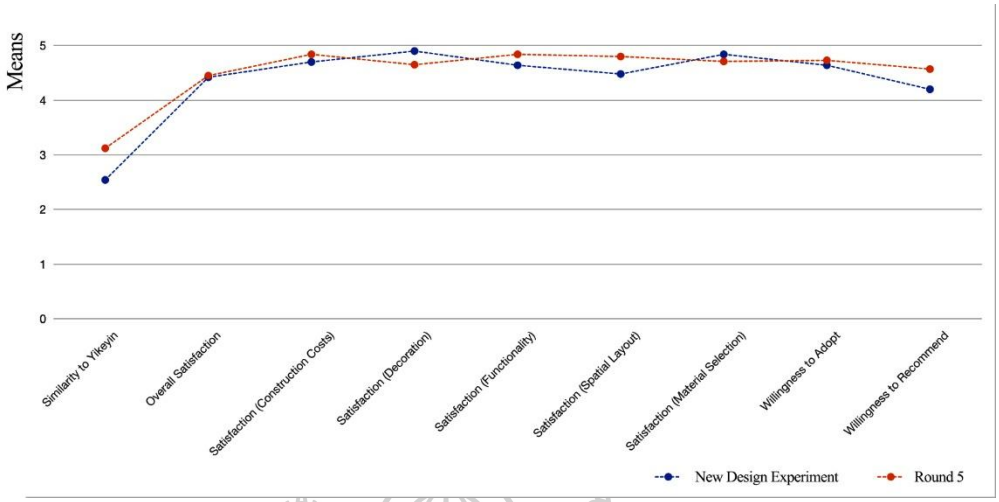


Figure 176 Line Chart of Means Value changes from Round 5 to the new attempt

The new design attempt shows similar evaluation results in the questionnaire data compared to the fifth round. Recognizability of Yikeyin, satisfaction with the layout, and willingness to promote have declined, but the decreases are not significant. The most notable increase is in satisfaction with architectural decoration.

In the interview, in-depth discussions will focus on the four variables: recognizability, layout, willingness to promote, and satisfaction with decoration.

4.9.3.2 Interview

According to villagers, the main reason for the decline in recognizability is that the long and narrow building form disrupts the square layout of the Yikeyin prototype. During the design process, Mr. Yang noted that the spatial combination of the main building, side room, and courtyard is very similar to the Half-Yikeyin. However, evaluations from other villagers revealed that if the designer does not actively point it out, villagers would not notice this feature. Villagers stated that this kind of house is not a “seal,” but rather a “stick.” Therefore, when recognizing the traditional prototype, the public is largely influenced by the overall massing and form of the building.

The decline in willingness to promote is related to satisfaction with the layout. The overall building layout is limited by the site, and such a spatial combination is uncommon in rural housing construction. This is because residential land for villagers is uniformly allocated by the government, which rarely assigns irregular plots such as long, narrow, or triangular ones. Therefore, this type of spatial layout is not representative and lacks the potential for promotion.

However, although the site conditions have changed, the overall evaluation of the proposal by the villagers remains relatively high. Satisfaction with the

decoration is particularly notable. The use of wood-like materials preserves the texture of wood while effectively reducing construction costs. This approach, which enhances decoration while also considering economic efficiency, was recognized by the villagers.

4.9.4 Reflection

This design practice was led by the researcher and guided by philosophical elements in the creation of space. The final proposal received positive feedback from the public. However, it should be noted that the public's evaluation of the architecture is still primarily based on its practicality, economic efficiency, and functionality—tangible elements—rather than the philosophical meanings embedded in the design. When expressing approval, they often do not recognize the philosophical value behind the architecture and find it difficult to include such value in their evaluation framework.

However, precisely because of this, the philosophical value at the intangible level should become the key focus for professional designers and researchers. Designers' wisdom should be applied to areas that “anonymous designers” cannot easily reach, regardless of how much time and experience they invest.

Villagers are often highly sensitive to terrain conditions, construction resources, and residential needs. They are aware of the limits of architecture and may possess some, though not always fully developed, aesthetic judgment and cultural understanding. However, they usually find it difficult to actively grasp, interpret, and transform the philosophical system and spiritual values behind architecture. In contrast, professional designers have systematic knowledge and the ability to interpret philosophical concepts. They can translate abstract ideas into spatial language and handle complex design logic and formal construction. Yet, at times, they may find it difficult to detach from theoretical thinking and fully understand the villagers' local practical needs and preferences.

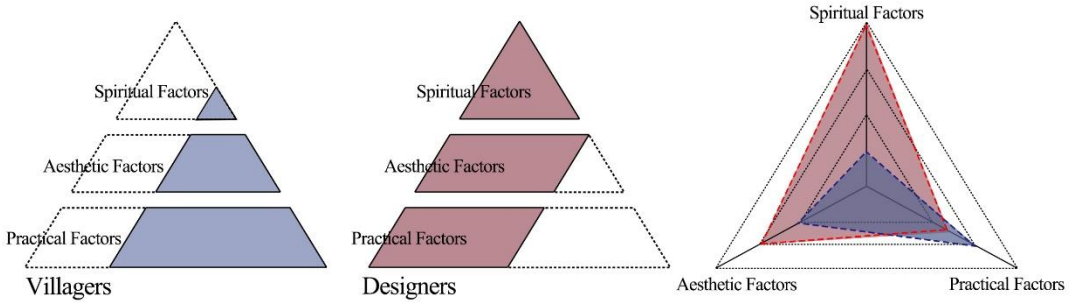


Figure 177 Cognitive Disparities in Practical, Aesthetic, and Spiritual Dimensions

The anonymous designers, familiar with real-life conditions, can complement the practical dimension of design, while professional designers and

researchers must awaken dormant spiritual values.

4.10 Landscape Center Design Experiment

Whether the value of traditional vernacular dwellings such as Yikeyin can be applied to non-residential building types, such as public buildings, rather than being limited to residential architecture, is a question worth further exploration.

Unlike the public participatory design model, designer-led design activities allow for greater personal creative expression. These expressions reflect the designer's independent thinking and cultural response when addressing traditional dwellings. This model is more common in conventional architectural projects and is a situation frequently encountered by designers in practice.

An opportunity arose during the researcher's residential design practice when the local government proposed conducting a conceptual design for a small landscape-related building. Based on this, the research will attempt to apply the spatial logic and spiritual characteristics of Yikeyin to public space design, exploring its translation in non-residential architectural types.

It is foreseeable that the change in building type will disrupt the functional organization and spatial layout of traditional dwellings. Some tangible elements of Yikeyin will be difficult to directly incorporate into a public space. However, the spiritual elements embodied by Yikeyin still possess transferability and inspirational potential. For example, Taoist concepts such as the "mutual generation of void and solid" and "the balance of Yin and Yang" emphasize harmonious coexistence between humans and nature, as well as between space and environment. Their philosophical logic is not tied to specific architectural forms, as is the case in Confucianism. Therefore, the design method of space generation driven by philosophy and spirituality will be applied in this landscape center design experiment.

4.10.1 Design Process

4.10.1.1 Site

The design site is located in the northern part of Haiyan Village. It borders Dian Lake to the north and connects to the village street plaza to the south. To the west is a lane, and to the east is a building with an earth-and-timber structure. A reinforced concrete structure originally stood on the site and is currently being demolished.

Figure 178 Site Analysis

4.10.1.2 Massing and Layout

The courtyard is the spatial core of Yikeyin. The design of this landscape center follows this spatial organization by first determining the courtyard's position on the site, then deriving the layout of each functional space around it. This method of generating space from “void” to “solid” reflects the Taoist philosophy’s understanding of the relationship between nature and space.

The roof has a sloped form, and the combination of long and short slopes reflects the roof characteristics of Yikeyin.

The first floor of the building features a semi-open design, breaking the clear boundary between traditional interior and exterior spaces and allowing the architecture to integrate organically with the surrounding landscape. The courtyard connects to the natural green space, creating a continuous spatial experience and fostering a sense of openness, flow, and closeness to nature.

The building is embedded within the landscape, avoiding abrupt boundaries and compulsory guidance, instead blending into the site with an open and transparent posture. This interwoven spatial state of void and solid not only responds to the Taoist concept of the “mutual generation of void and solid,” but also reflects Taoist ideas such as “adapting to the site” and “achieving without forcing.”

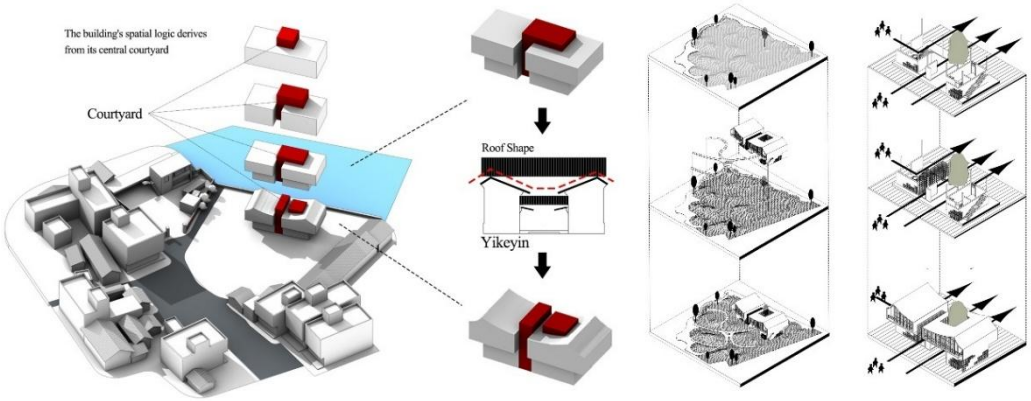


Figure 179 Massing and Space Design

4.10.1.3 Landscape

Chinese garden design emphasizes drawing inspiration from natural landscapes and imitating nature. In the site landscape design, grassy mounds will simulate mountains, and glass walkways will simulate water to express the traditional aesthetic imagery of mountains and rivers.

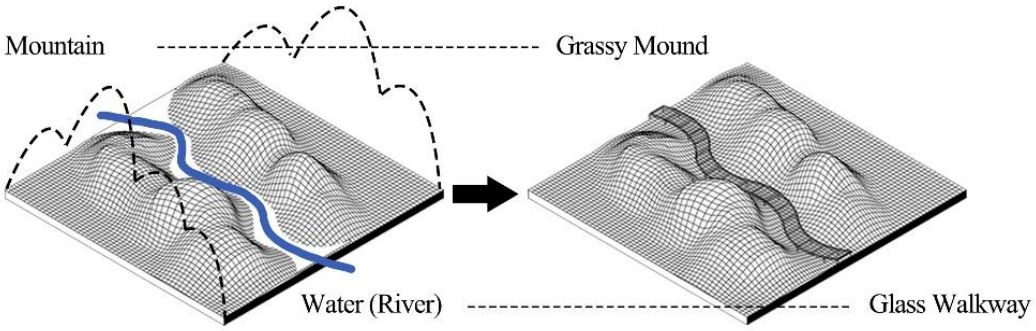


Figure 180 Imitating Traditional Aesthetics of Nature Through Landscape

4.10.1.4 Material and Decoration

Figure 181 Selection of Building Materials

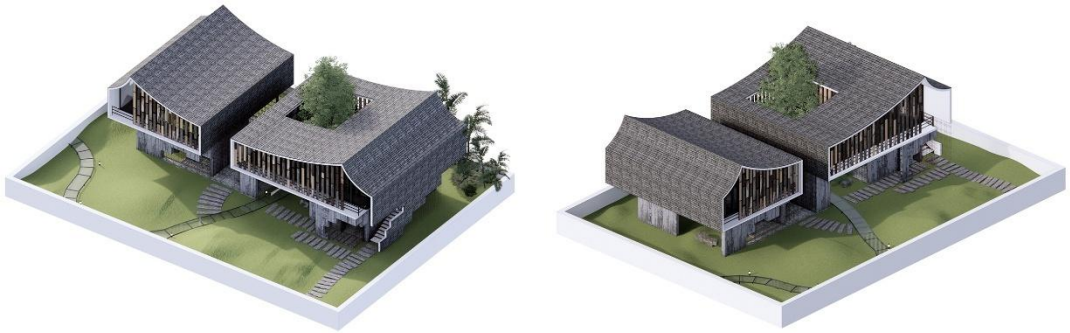
In material selection, the design addresses observations from field research—the visual and cultural conflict between the large quantities of modern building materials left behind after demolition in the village and the natural environment. Confronting the irreversibility of modern material use, the design follows the Taoist principle of going with the flow, retaining and explicitly presenting the texture of concrete and steel bars. By exposing the raw texture of these materials, it offers a critical response to traditional decorative aesthetics.

In addition, the design attempts to incorporate sustainability. Some recyclable wood is used for the facade details, continuing and responding to local construction traditions. These efforts aim to explore the integration of modern materials with the traditional human-nature relationship, so that they are no longer

heterogeneous elements but are embedded into the environment through spatial organization and construction methods. The juxtaposition of new and old materials visually creates tension, forming a dialogue between time and culture.

4.10.2 Proposal Presentation

Architectural Axonometric Drawing



Architectural Rendering

Figure 182 Architectural Axonometric Drawing and Rendering

Figure 183 Rendering of Courtyard

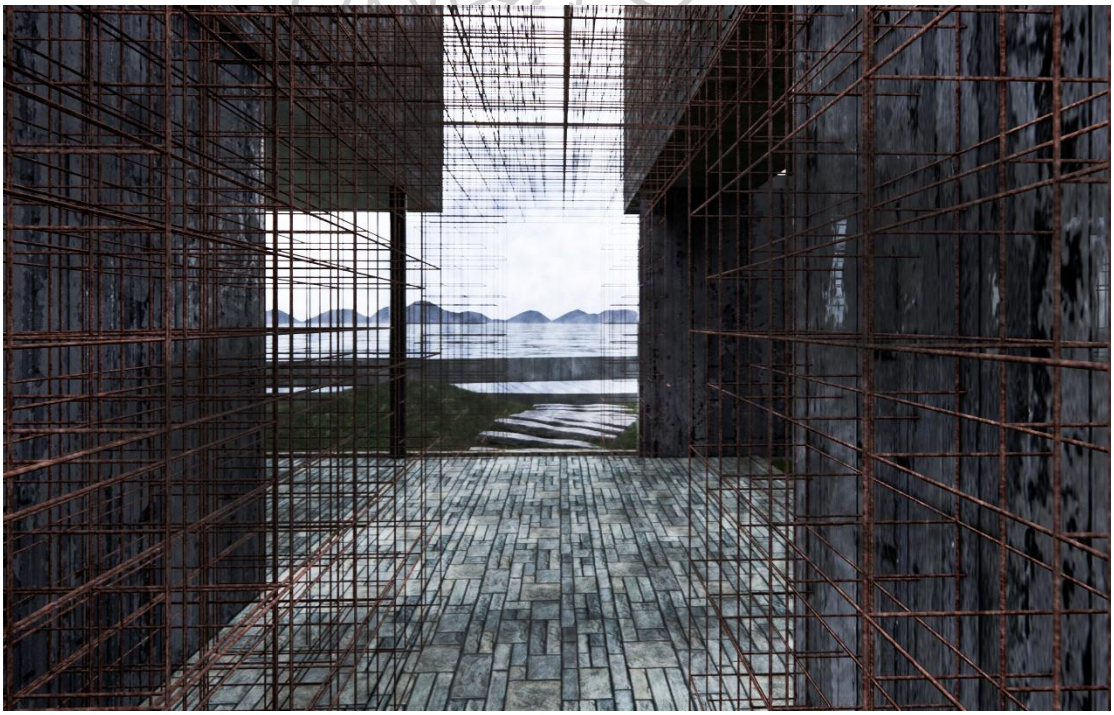


Figure 184 Rendering of Courtyard

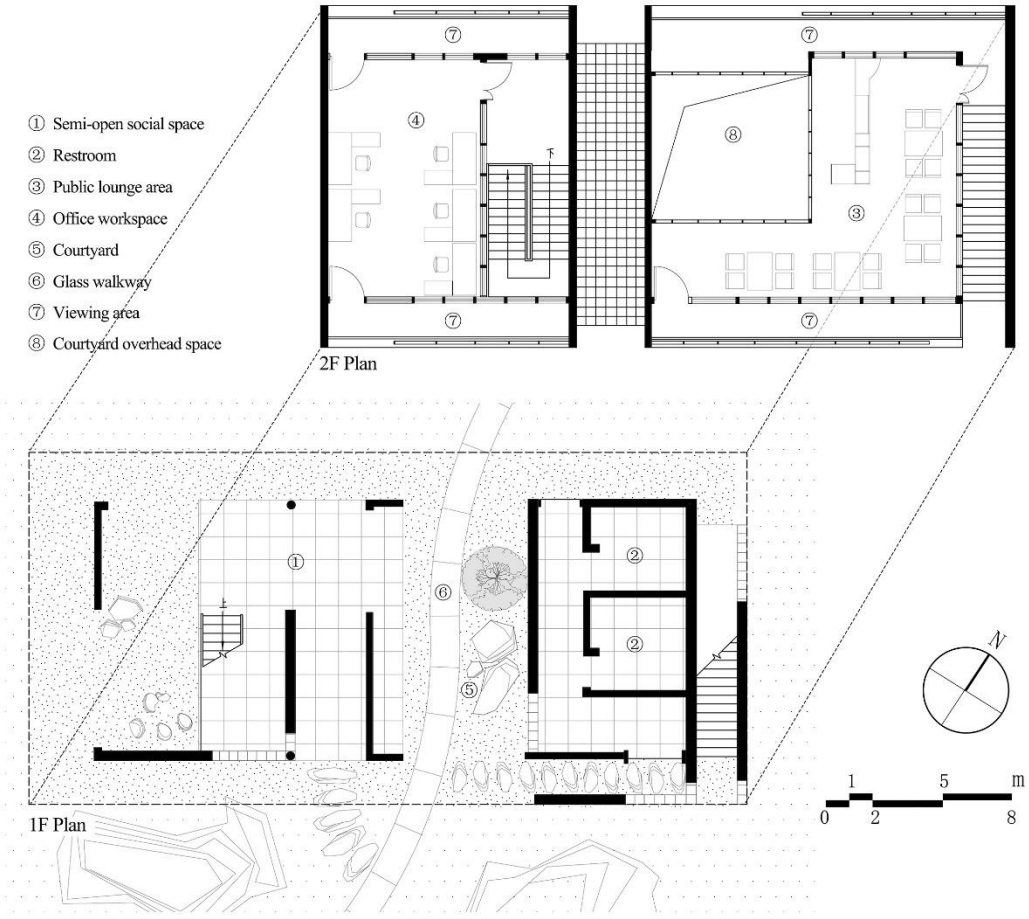


Figure 185 Design Layout Plan

Figure 186 Master Plan and Shadow Analysis

4.10.3 Evaluation and Reflection

The evaluation of the landscape center design was conducted form group discussions with participants including government representatives, local villagers, tourists, and experts. The following is a summary of the feedback and opinions from each stakeholder group.

Table 16 Evaluation of different stakeholders

Stakeholder	Evaluation
Government	- Focuses on the economic feasibility of the concept and its potential development benefits. - Considers the form creative and iconic, potentially attractive for village development. - Due to the immature tourism industry, implementation feasibility remains uncertain. - Overall evaluation is positive, but future implementation requires further discussion.
Local Villagers	- Unable to identify the Yikeyin prototype from the building's appearance. - The new form and spatial layout deviate from traditional characteristics. - Express satisfaction, possibly due to politeness or limited understanding.
Tourists	- Focus more on novelty and spatial experience. - Appreciate the creative use of materials and layout. - Recognize the embedded critical reflections and cultural intent. - View the building as iconic and are willing to recommend it to others.
Experts	- Applying the Yikeyin prototype to public buildings is a significant extension of the vernacular architectural vocabulary. - The design does not merely replicate the traditional form but instead continues its spatial spirit and cultural logic during the typological shift. - While the philosophical expression is conceptually rich, it remains difficult for the general public to interpret. - Mechanisms are needed to communicate philosophical values, making them more accessible and participatory. - The juxtaposition of recycled wood and modern materials demonstrates a consideration of temporality and ecological awareness. - The design's critical and emotional expressions are powerful. The fact that some philosophical content is already perceptible to the public, indicating a strong potential for communicating intangible values through spatial language.

This design iteration, responding to the traditional Yikeyin prototype, translates its spatial essence into the language of public architecture. Confronted with a change in building type, the designer did not pursue formal replication but instead

focused on the contemporary expression of the philosophical elements underlying the prototype, such as the “mutual generation of void and solid” and “the balance of Yin and Yang.”

The design clearly conveys a critical attitude toward the reality of rural construction, especially in the treatment of materials, where the exposed state of concrete and steel bars is preserved, revealing the irreversible construction logic in the process of rapid rural urbanization and reflecting the tension between modern technology and the natural environment.

In addition, by reusing old wood and juxtaposing it with modern materials, a visual tension spanning time is created, reflecting the designer’s deep response to locality, ecology, and cultural rupture. Although public recognition of philosophical content remains limited, its explicit expression in space already holds perceptible power, demonstrating the effectiveness and future potential of philosophy-driven approaches in integrating into the rural context of public architecture design.

4.11 Summary

This chapter systematically reviews the five rounds of PAR practice, presenting the process by which Yikeyin has been gradually understood, reinterpreted, and translated into a design language in the contemporary context.

Each round of practice yielded specific findings: the first round focused on reusing traditional components and decorations, emphasizing a sense of formal familiarity; the second round revealed the social symbolism and class significance behind material selection; the third round addressed the modern adaptation of space and function; the fourth round highlighted the public’s strong dependence on the recognizability of the prototype; and the fifth round, for the first time, proposed a philosophy-oriented spatial generation strategy, significantly deepening the design language.

Based on the experience gained in the five rounds, the study proposed the SPIRIT design model, which summarizes the modern translation of traditional prototypes into six keywords: 1) Spirit Identification, 2) Participatory Platform, 3) Intangible Spatialization, 4) Responsive Contextual Adaptation, 5) Identification of Tangible Prototype Elements, and 6) Tangible Design Response. The model addresses the shift from tangible to intangible and provides a systematic methodological framework for the contemporary expression of traditional architecture.

To address special conditions not covered by the SPIRIT model, two design experiments were conducted as supplements. Confronted with site constraints such as a narrow strip of land, the sixth round of residential design could not directly respond to the spatial prototype of Yikeyin. Therefore, the design adopted a spatial generation method driven by philosophical elements such as “the mutual generation of void and solid” and “the balance of yin and yang,” verifying the possibility of maintaining cultural recognizability under limited formal conditions. This method was then

extended to the design of a landscape center as a type of public architecture, addressing open site conditions and non-residential functional needs, focusing on the spatial translation of spiritual content, and strengthening the designer's personal cultural expression. This process not only confirmed the potential for the spatial spirit of traditional vernacular dwellings to be extended across building types, but also revealed the core principle of the SPIRIT model—the design mechanism of space generation driven by spiritual elements.

Chapter 5

Conclusion and Suggestion

This research aims to explore effective methods for the revitalization of Yikeyin, focusing on the modern transformation of traditional vernacular dwellings. Originating from long-term observation of the increasingly homogenization of rural dwelling, the study proposes that inspiration should be drawn from local traditions and historical culture to address to the problems of lost locality and cultural discontinuity.

The methodology involved several key stages:

First, a database of Yikeyin elements was constructed by systematically organizing the tangible and intangible components of the dwellings.

Second, through comparative and interdisciplinary methods, the study identified and analyzed the key aspects of Yikeyin vernacular dwellings that have been weakened in contemporary rural housing.

Finally, through the five rounds of PAR, and SPIRIT design model was proposed, with two additional rounds of extended design used to supplement its expressive dimensions.

The practical results of this research not only provide a systematic path for the spatial preservation and contemporary expression of traditional dwellings but also identify new research possibilities for both the design methods and theoretical frameworks of rural architecture.

5.1 Research Summary

5.1.1 Response to Research Objective 1

To address the first research objective—"to construct a systematic framework for understanding the traditional components of Yikeyin"—this research employs methods such as literature review, field investigation, architectural mapping, and village interviews to systematically establish a Yikeyin knowledge database that encompasses both tangible and intangible elements as the output of the first research stage. The most important aspect is the use of mapping methods to systematically reveal the connections between tangible spatial elements and intangible philosophical connotations in Yikeyin architecture.

The database content includes:

- **Recording and summarizing tangible elements: typical** spatial layout diagrams of Yikeyin dwellings (such as the "three-room two-side-room" courtyard and central courtyard), architectural elevations and sections, wooden structure joints, decorative detail drawings, and detailed textual and visual records of material use, construction techniques, and color

application.

- **Sorting and refining intangible elements:** through literature and interviews, Confucian spatial order (such as axial symmetry and hierarchical arrangement), Taoist philosophy (such as the relationship between void and solid space and the interaction between humans and nature), and Feng Shui concepts (such as building orientation and entrance position) are interpreted and summarized to extract their spatial expression logic.

The systematic establishment of the Yikeyin knowledge database provides a clear knowledge source and theoretical support for subsequent design practice, laying a solid foundation for exploring the contemporary transformation path of traditional vernacular dwellings.

5.1.2 Response to Research Objective 2

To address the second research objective—"to identify the parts of Yikeyin that have been lost or weakened in contemporary rural areas"—this study, building on the previously constructed knowledge database, further integrates plan-based comparative analysis, anthropological observation, and theories such as "path dependence" to systematically examine the changes between Yikeyin and contemporary rural dwellings in terms of spatial layout, construction methods, the role of builders, and cultural cognition, and summarizes the loss and variation of key elements.

Main findings of this research include:

- Confucian, Taoist, and Feng Shui philosophies no longer exert substantial influence on the composition of architectural space, persisting only as vague impressions in the villagers' cognition.
- Traditional construction methods have been simplified due to the loss of craftsmen and the popularization of new building materials, leading to a trend of standardization and the use of template.
- Builders have shifted from being carriers of traditional culture to labors executing architectural drawings, and the construction process no longer reflects local culture.
- Traditional elements courtyard layouts, axial order, and courtyard spaces are generally absent in newly built houses, replaced by floor plans oriented towards practicality and privacy.
- Although traditional spatial forms have been marginalized under changing systems, some customary perceptions of tradition continue to influence practices out of cultural inertia.

Overall, this research not only reveals how the traditional components of Yikeyin have been diluted in contemporary rural construction, but also provide an in-depth analysis of the social, cultural, and construction related changes that have led

to this transformation.

5.1.3 Response to Research Objective 3

To address the third research objective— “to explore the sustainable transformation path of Yikeyin in contemporary rural housing”—this study, drawing on the knowledge base established in the first two stages and the analysis of weakening mechanisms, conducted five rounds of Participatory Action Research (PAR) practices. Each round centered on public participation, co-creation feedback, and design revision as core mechanisms, gradually promoting the integration of traditional elements with contemporary construction logic. Based on reflections after each round, the study identified key findings and accordingly proposed the SPIRIT model as a systematic approach to guide the sustainable transformation of traditional space.

Through the five rounds of PAR practice, the study gradually identified and summarized the following new findings:

- The traditional philosophical connotation has gradually faded from public awareness and cannot be effectively revived solely by reproducing architectural forms; the transmission of philosophy requires interaction and communication between designers and villagers during the design process.
- Materials possess not only physical properties but also social symbolic meanings and cultural cognition. Villagers’ acceptance of materials is influenced by social memory and local life experience, not solely by economic cost and physical performance.
- Modern villagers prefer new materials and architectural forms that combine economy and modernity in their design choices; the continuation of traditional elements must adapt to changing times and aesthetic trends, rather than adhering to original forms.
- Traditional spatial prototypes can evoke villagers' cultural memory and emotional identity. During the design process, villagers actively notice and identify traditional elements related to their own experience, and the "identifiability" of traditional prototypes directly affects design satisfaction.
- The effective inheritance of philosophical elements requires specific spatial carriers and proactive design actions in the design process. The transformation of contemporary rural housing must, while ensuring economy, functionality, and spatial comfort, respond to tradition through moderate prototype identifiability.

Based on the practical results of the five rounds of PAR, the study proposes the SPIRIT model as a design path and translation between “tradition” and “modernity”:

- S (Spirit Identification)
- P (Participatory Platform)
- I (Intangible Spatialization)
- R (Responsive Contextual Adaptation)
- I (Identification of Tangible Prototype Elements)
- T (Tangible Design Correspondence)

In addition, to verify dimensions beyond the SPIRIT model's applicability, the study conducted two rounds of extended design experiments and concluded that the core of the SPIRIT model lies in "spirit"-driven spatial generation. When the site conditions or building types change, and the design is no longer limited to residential houses, these variations make it difficult to directly continue form, space, and function. At this point, one should return to the inner spiritual elements of Yikeyin or other vernacular dwellings to reorient spatial generation. Although traditional forms cannot be fully continued, the re-expression and continuation of spiritual values can be regarded as a deeper-level revitalization path for Yikeyin.

5.2 Contribution

The contributions of this study are mainly divided into two categories: theoretical construction and methodological innovation aimed at academic research, and the exploration of design paths and models aimed at vernacular practice.

Academic contributions:

- A systematic Yikeyin knowledge database was constructed, covering both tangible and intangible elements, and providing a structured data foundation for traditional dwelling research.
- The mapping relationship between philosophical thought and spatial composition was established, filling the theoretical gap in the spiritual dimension of vernacular architecture studies.
- The theories of path dependence and complex systems were introduced, and architectural, anthropological, and sociological methods were integrated, strengthening the understanding of social cognition and cultural memory in the evolution of traditional dwellings.

Design contributions:

- A five-round participatory design process based on the PAR method was established, verifying the effectiveness of public co-creation in transforming vernacular architecture.
- The SPIRIT model was proposed as a design framework for the contemporary expression of traditional dwellings. SPIRIT is applicable not only to Yikeyin vernacular dwellings but also has reference value for other vernacular types.
- The study further explored how to guide spatial generation through

philosophical spirit in complex situations beyond the SPIRIT model's applicability, achieving a deeper revitalization of tradition.

- It emphasized that the design process is also a process of cultural transmission, activating public identity and renewed recognition of traditional values through collaborative mechanisms.

This study introduces new theoretical tools and design approaches for the contemporary transformation of traditional dwellings. By integrating philosophical thinking with spatial design, it offers practical strategies to address cultural discontinuity and design homogenization in rural development.

5.3 Discussion

1. The tension between formal inheritance and spiritual translation

In the past, the excessive focus on "characteristic" traditional forms often arose from a crisis of cultural identity, and the continued replication of form no longer has natural legitimacy in the contemporary context (Wu, 2014). The five rounds of PAR indicate that the public has a high level of recognition and cultural dependence on traditional spatial forms, but simple replication cannot effectively stimulate cultural identification. Changes in reality, along with perceptions of new materials and technologies, are also considered in the evaluation system. Therefore, deliberately reproducing a specific traditional appearance in design does not ensure the continuation of cultural identity and may even become disconnected from contemporary life due to the changed context. Design should shift from formal imitation to spiritual extraction and be guided by the intrinsic value of regional cultural inheritance.

2. The complexity and necessity of public participation

Research and practice widely show that introducing participatory methods in vernacular construction can enhance the suitability and sustainability of the design scheme. Wu et al. (2017) point out that participatory design involving multi-party collaboration can rebuild endogenous motivation in the community and achieve the sustainable development of rural society. However, truly implementing deep public participation is not easy. In the rural context, villagers often adopt a catering attitude toward external experts out of consideration for social status or politeness, leading to reserved expressions and a kind of superficial "accommodative feedback." This phenomenon means that even when using Participatory Action Research (PAR), the feedback obtained may remain superficial and cannot truly reflect the inner demands of villagers. Therefore, it is necessary to establish long-term trust mechanisms and effective communication channels to ensure that community members can genuinely and actively participate in design decisions.

3. Rethinking from local practice to generalizable paths

Although the SPIRIT model originates from the case practice of the "Yikeyin" traditional dwelling, its methodological logic and underlying philosophical thinking have general applicability, providing a reference for the modern transformation of vernacular dwellings in other regions of China and globally. It is undeniable that different regions have unique social, cultural, and natural contexts. For example, studies comparing the renovation of traditional dwellings in different regions of India found that geographical and cultural factors lead to differences in evolutionary paths (Sadhu & Srikonda, 2020). This suggests that while extracting universal methods, it is still necessary to respect the particularities of different vernacular types. Nevertheless, the cultural values embodied in vernacular architecture have universal significance, and their inheritance and transformation in modern design is a common challenge worldwide (Manurung et al., 2022). Therefore, the SPIRIT model proposed in this study is expected to serve as a general framework applicable to different rural contexts, but it still requires more field cases for verification and adjustment to explore its scalability and effectiveness across various types of vernacular settlements and to provide a universally applicable path for the revival of vernacular architecture in the new era.

5.4 Suggestion

The conclusions of this study address the contemporary expression of traditional Yikeyin dwellings and offer useful insights for relevant design practices, policy formulation, and academic research. The specific suggestions are as follows:

1. Suggestions for rural architectural design practice

- Avoid the mechanical replication of traditional forms. Instead, emphasize the transformation of philosophical principles (such as Confucian ritual order, Daoist "void and solid," Feng Shui orientation) into perceivable spatial experiences through spatial guidance, symbolic narratives, and material symbolism, thereby enhancing public cultural identity.
- Actively involve local construction teams in the design process. Their on-site construction experience and material judgment can improve the feasibility and cultural relevance of the proposal.
- Fully consider the rural demand for functional flexibility and economic efficiency. Introduce modular and adjustable strategies in spatial layouts to adapt traditional spatial logic to modern lifestyles.
- Utilize AI-Generated Content (AIGC) and other artificial intelligence tools to visualize villagers' preferences and gather real-time feedback on design intentions, thereby improving collaboration efficiency and the quality of consensus.
- Establishing a sustained public participation mechanism to prevent "accommodative feedback" from interfering with authentic expression,

strengthening the trust and cultural productivity of the co-creation process.

2. Suggestions for policy and community governance

- Local governments should introduce guiding policies that provide technical and financial support for culturally oriented design, encouraging design teams to deeply engage with local cultural resources.
- In rural construction projects, governments should shift from being approvers to facilitators of collaborative platforms, and establish sustained dialogue mechanisms between designers, residents, and builders.
- Negotiation mechanisms such as “village consultation councils” or “community design joint groups” should be encouraged to transform architectural design into a process of activating community identity and knowledge transmission.
- The construction of rural architectural element databases and regional cultural knowledge-sharing platforms should be promoted to enable interconnection and sharing between design resources and community experiences.

3. Suggestions for academic research

- Future research can further test the adaptability and adjustment mechanisms of the SPIRIT model in different types of vernacular architecture (such as Yaodong cave dwellings, Tulou, and Diaojiaolou stilt houses), promoting the model’s transition from “case logic” to “general tool.”
- It is worthwhile to explore whether the constituent elements of Yikeyin possess the potential for extension from the residential prototype to other building types, such as community centers or cultural exhibition spaces, to expand its cultural recognizability and design influence.
- Further studies should investigate the “spirit-space” translation mechanism, including how philosophical ideas can be spatially expressed through layout, construction details, and color imagery.
- Future research should focus on developing framework for “authentic feedback mechanisms” and the “coordination of power structures” in participatory design, providing more scientific and sustainable theoretical support for co-creative spatial generation.

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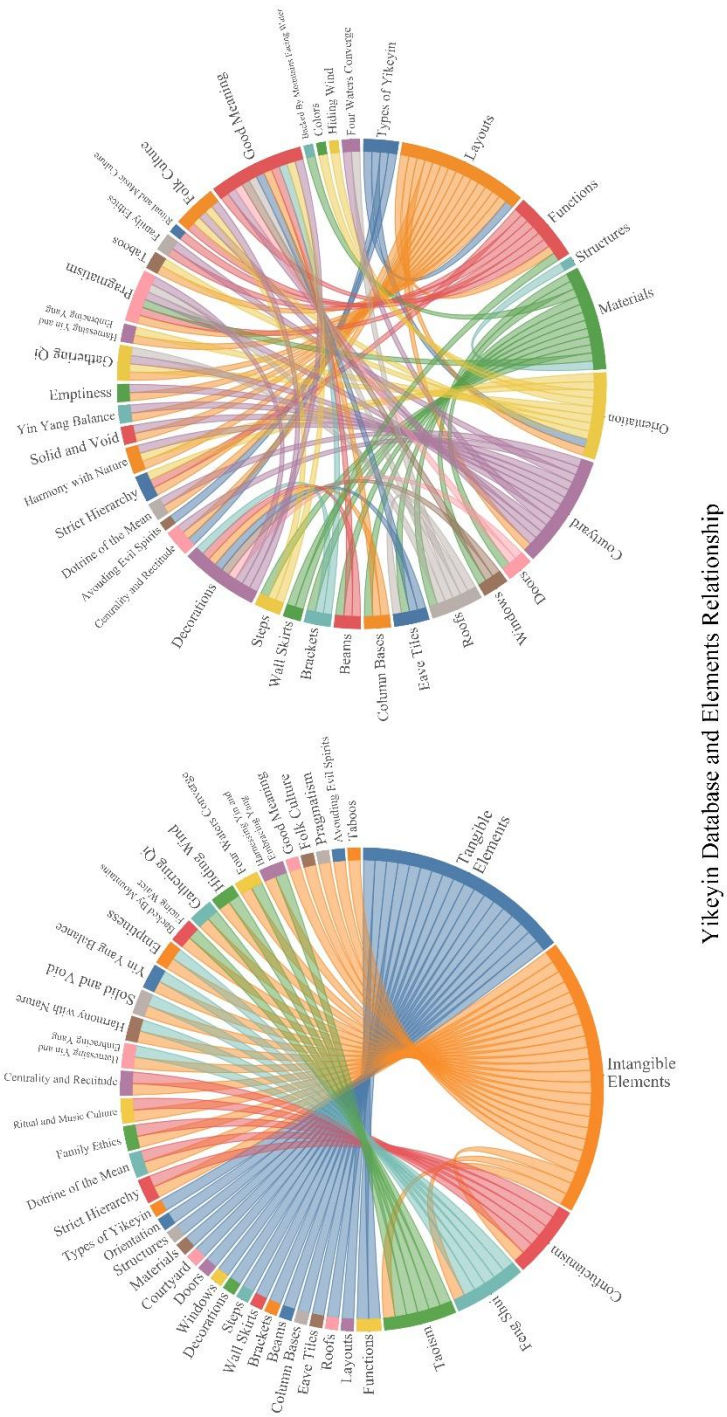
Appendix

Yikeyin Database



Yikeyin Database and Elements Relationship

Table 1 Data of Yikeyin Types

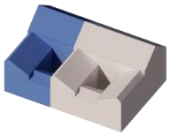
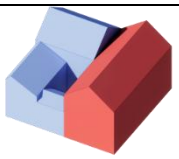
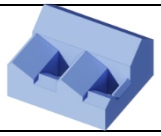
Type	Space Layout	functional Description	Example Image
U+L	Main house and side rooms arranged in a U shape with an additional L-shaped extension	Provides diverse functional areas, suitable for large families	
L+I	Main house and side rooms arranged in an L shape combined with an I shape	Offers multiple functional zones, adaptable to irregular plots	
U+U	Two U-shaped sections combined	Enhancing Centripetal and Protective Qualities	
L+L	Two L-shaped sections combined	Efficient use of space, adaptable to corner plots	
U+I	Main house and side rooms arranged in a U shape combined with an I shape	Combines central courtyard benefits with linear extensions for additional functionality	
U+L+I	Main house and side rooms arranged in a U shape with additional L and I-shaped extensions	Provides extensive functional areas, ideal for very large families or multi-generational living	
U+U+I	Main house and side rooms arranged in two U shapes combined with an I shape	Maximizes flexibility and provides multiple functional areas	

Table 2 Spatial Function and Hierarchy

Space	Function Description	Spatial Hierarchy
Courtyard	Central courtyard, providing light, ventilation, access; symbolizes the spiritual and spatial core	Highest-the spiritual and environmental center connecting all units
Main Hall (1F, center)	Living room for family gatherings and daily activities	High-represents the family and is centrally located
Main Hall (2F, center)	Ancestor shrine space	High-signifies ancestor reverence and spiritual presence
Main Hall (1F, left)	Elder’s bedroom	Moderate-reflects seniority within the family
Main Hall (1F, right)	Eldest son's bedroom	Moderate-reflects family succession hierarchy
Main Hall (2F, left)	Second son's bedroom	Moderate-assigned to younger son
Main Hall (2F, right)	Daughter's or third son's bedroom	Moderate-assigned to daughter or third son
Side Room (1F, left)	Kitchen and livestock room	Functional-domestic work and livestock care
Side Room (1F, right)	Storage or bedroom	Functional-storage or living support
Side Room (2F, left)	Bedroom for younger sons	Lower-functional, for younger members
Side Room (2F, right)	Bedroom for younger daughters	Lower-functional, for younger members
Daozuo (1F)	Entrance Hall	Transitional-external to internal buffer
Daozuo (2F)	Storage for tools and daily goods	Functional-storage support

Table 3 The Materials of Yikeyin

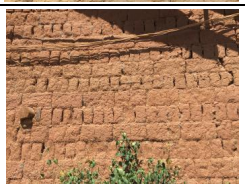
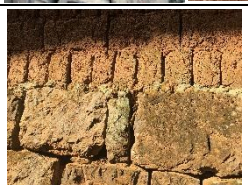
No.	Category	Description	Image Example
1.	Traditional	Earth Wall: An enclosing structure for Yikeyin building exteriors.	Rammed earth 
			Adobe brick masonry 
2.	Traditional	Wood: Internal wooden frame structure and components like doors, windows.	 
3.	Traditional	Gray Brick: Used for walls, flooring, main entrances, and decorations.	 
4.	Traditional	Clay Tiles: Used for roof tiles and eave tiles.	 
5.	Traditional	Stone: Used for building foundations and wall bases.	 
6.	Traditional and Local	Snail Shells: Enhance cohesion and durability of rammed earth walls (also straw).	 

Table 4 Summary of Window Patterns in Yikeyin Dwellings

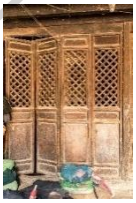
Location	Category	Description	Image Example
Main House	Traditional	" One-Grid Three-Arrows Window" (“一码三箭”)	
		Double-Cross Plum Blossom Lattice Window(双交梅花格子)	
	Contemporary	Wood-Framed Glass Window	
Side House	Traditional	"Step-by-Step Brocade" (步步锦)	Basic Step-by-Step Brocade 
		“Silkworm Step-by-Step Brocade” (卧蚕步步锦) 	
		Meander Step-by-Step Brocade (回纹步步锦) 	
Side House	Traditional	Plain Wooden Panel	

		Lattice Window	
	Contemporary	Iron-Framed Glass Window	
Daozuo (Reverse-Facing Building)	Traditional	Non-Hollow Lantern-Style Window with Ruyi and Fangsheng Patterns (灯笼如意)	 
Exterior Wall Window	Traditional	Plain Panel Window with Step-by-Step Brocade Decoration	 
		Plain Wooden Panel	
	Contemporary	Renovated Wooden-Framed Glass Window with Iron Grille	  
		Simple Hollow Iron Wire Window	

		Wood-Framed Circular Glass Window	
Other Windows	Traditional	Rare Plum Blossom Lattice Window	
		Step-by-Step Brocade （直棂步步锦）	
		Rare Double-Cross Plant-Based Fourfold Ruyi Pattern (Decorative Window)	
		Straight Mullion Window (Decorative Window)	
		Fish Scale Window	
		Diagonal Lattice Window	
	Traditional Style,	Cross-Shaped Lantern （十字灯笼）	

	Industrial Production		
		“Lantern Brocade” （灯笼锦）	

Table 5 Summary of Door Patterns in Yikeyin Dwellings

Location	Category	Description	Image Example
Main Entrance	Traditional	Plain Flat Door Surface with Entwining Branch Decoration on the Door-head	 
		Door Surface with Tiao-Huan Panel Decorative Moldings	
	Contemporary	Modern Material Door (Cement, Tiles, Iron, and Other Materials)	  
Main House	Traditional	Double-Cross Plum Blossom Lattice Window	
		Double-Cross Plant-Based Fourfold Ruyi Pattern	The Waist Panel and Skirt Panel Have a Plain Surface 
			Waist Panel with Branches and Skirt Panel with Floral and 

			Animal Patterns	
		Rare Geometric Pattern		
Side House	Traditional	Lantern Design with Fang-Sheng and Cloud Patterns (方胜祥云灯笼纹)		
		Plain Wooden Panel	 	
	Contemporary	Mass Production Using Modern Materials		
Screen Door	Traditional	Double-Cross Plum Blossom Lattice Window		
		Plain Wooden Panel		
	Contemporary	Circular Doorway		

Table 6 Colors of Yikeyin Dwelling

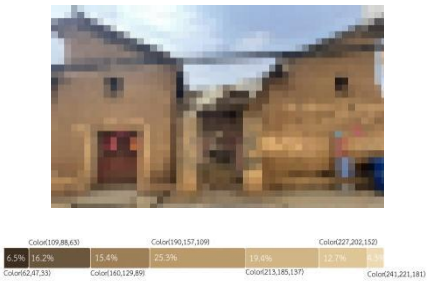
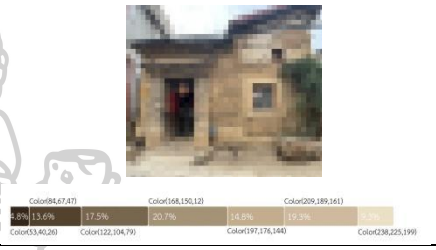
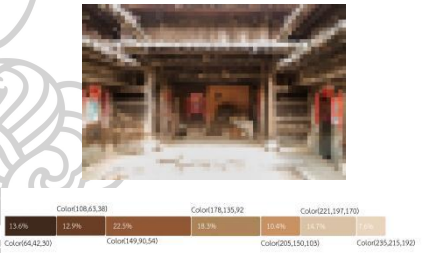
No.	Description	Photograph	Pixelation and Analysis
1	Yikeyin exterior facade		
2	Half-Yikeyin exterior facade		
3	Interior of a vernacular dwelling		

Table 7 Influence of Chinese Traditional Philosophy on YiKeYin Layout

Traditional Philosophy	Philosophical Thought	Impact on Architectural Design	Specific Manifestation
Taoism	Harmony with Nature	Emphasizes harmony between humans and nature	Courtyard design: introducing natural light and ventilation through courtyards to create a living environment integrated with nature
	Heaven is Round, Earth is Square	Reflects the cosmological principle of the universe	Layout connecting with the earth, the square plan design is a reverence for the earth and nature
Confucianism	Family Ethics	Emphasizes family	Layout: Main house is central,

		unity and rituals	symbolizing the dignity and authority of the family elders; symmetrical layout reflecting family harmony
	Ritual and Music Culture	Focuses on the function of rituals and ceremonies in architecture	Functional division: dedicated spaces for rituals, such as ancestor halls and worship areas, for family ceremonies
	Doctrine of the Mean	Emphasizes harmony and balance in architecture	Design principles: symmetrical layout and reasonable partitioning to ensure overall balance and harmony
	Centrality and Rectitude	Emphasizes central position and rectangular layout of buildings	Layout: Main house is central, overall building is rectangular, reflecting stability and safety
	Strict Hierarchy	Left is superior to right, arranged by seniority	Left-side rooms are arranged as bedrooms in order of seniority
Folk Culture	Pragmatism	Emphasizes the practicality and functionality of architecture	Space utilization: rational division of living, storage, and activity areas based on family needs
	Avoiding Evil Spirits	Designing buildings in the shape of a seal to ward off evil spirits	Overall building shape resembles a seal, symbolizing authority and warding off evil
	Symbolic Significance	Ear Room Dimensions	The shape of '日' resembles a coffin, symbolizing death. Therefore, when choosing a double ear room, avoid making the width too large to form a '日' shape

Table 8 Yikeyin Architectural Orientation and Philosophical Mapping

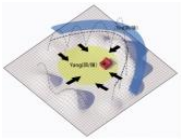
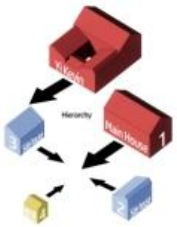
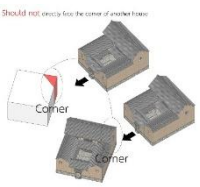
Philosophical and Cultural Influence	Specific Manifestation	Main Influence	Image Description
FengShui: "Hiding Wind, Gathering *Qi*" (藏风聚气)	"Backed by Mountains, Facing Water"(背山面水) Mountains block wind to retain *Qi*, while water gathers *Qi*.	The building is typically backed by a mountain, facing water or plains	
	Yunnan is influenced by southwest winds	Building orientation avoids southwest to prevent *Qi* dissipation	
	Qi flows like water, entering through a mountain saddle, backed by a peak to gather *Qi*	Building facing the Mountain Saddle and be backed by peak	
Taoism: "Harnessing Yin and embracing Yang" (负阴抱阳)	The best location for siting is one surrounded by mountains	Mountains represent 'Yin,' while orienting the building towards the sun embodies 'embracing Yang.	
	Yunnan, near the equator, south-facing may not fully capture sunlight	Facing southeast for better sunlight absorption in the morning	-
Confucian philosophy: Order, Respect, and Clear Hierarchy	Room orientation based on family hierarchy and function allocation	The main house aligns with the building's orientation; the elder and eldest son occupy the central position, while others face the courtyard	
Folk Belief and Feng Shui	Orientation guided by avoidance of *Sha Qi*	Main gate avoids facing building corners to prevent bad fortune	

Table 9 Roof Form Analysis and Philosophical Mapping

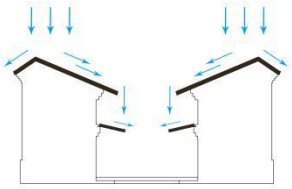
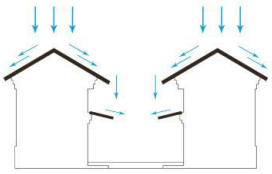
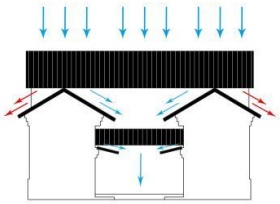
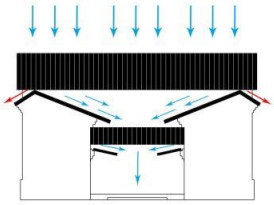
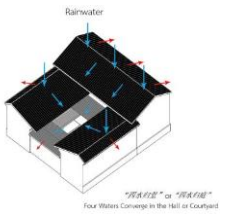
Roof	Description	Advantages	Image Description
Long-Short Slope Roof	One side has a longer slope to collect more rainwater into the courtyard, while the short slope drains directly outside.	Improves water collection and cost-effective.	
Dual Long-Slope Roof	Symmetrical design with rainwater partially directed into the courtyard and the rest drained outside.	Efficient drainage, aesthetically pleasing, suitable for combining tradition with functionality.	
Dual Long-Slope Roof Drainage	Rainwater is directly discharged outside the building, reducing courtyard water accumulation.	Focuses on functionality, suitable for areas with heavy rainfall but lacks significant Feng Shui symbolism.	
Long-Short Slope (Courtyard-Focused)	More rainwater is directed into the courtyard, with enhanced drainage systems to strengthen wealth and energy gathering compared to dual long-slope roofs.	Strong *Qi* gathering function with rich cultural symbolism.	
Four-Slope Roof (Four Waters Converge)	Rainwater from all four slopes converges at the courtyard center, with a central skylight for ventilation and drainage.	Represents "gathering *Qi* and wealth," with the courtyard as the family core, symbolizing harmony and prosperity.	

Table 10 Meaning of the Patterns

No.	Description	Meaning
1	" One-Grid Three-Arrows Window" (“一码三箭”)	Symbolizes avoiding evil, driving away bad luck, achieving wealth, and commanding respect.
2	Double-Cross Plum Blossom Lattice Window(双交梅花格子)	Symbolizes resilience, purity, and noble character. Represents the perseverance to overcome hardships and achieve success.
3	"Step-by-Step Brocade" （步步锦）	Represents steady progress, improvement, and aspirations for a better future.
4	Non-Hollow Lantern-Style Window with Ruyi and Fangsheng Patterns （方胜纹灯笼如意）	Combines prosperity, balance, and auspiciousness through the fusion of Ruyi and Fangsheng motifs.
5	Rare Plum Blossom Lattice Window （梅花棂）	Represents purity, perseverance, and the noble qualities associated with plum blossoms.
6	Double-Cross Plant-Based Fourfold Ruyi Pattern（双交植物如意）	Reflects harmony, growth, and good fortune, emphasizing symmetry and natural vitality.
7	Fish Scale（鱼鳞纹）	Symbolizes leaping carp becoming dragons, abundance, and progress, representing prosperity and ambition.
8	Cross-Shaped Lantern （十字灯笼）	Symbolizes guidance, protection, and unity, often associated with clarity and light.
9	“Lantern Brocade” （灯笼锦）	Represents celebration, warmth, and prosperity, combining traditional lantern imagery with textiles.
10	Lattice Pattern（方格）	Represents integrity and the ability to attract wealth.

Table 11 Decorations and Design Philosophy

No.	Type	Description	Design Philosophy	Taboos
1	Doors	Wooden carved doors with patterns like entwined branches and circular longevity motifs; doorhead decorated with brick carvings.	Symbolize rituals and identity; main doors face southeast to welcome "Purple Qi from the East," reflecting Feng Shui principles.	Should not directly face the central hall or sharp corners to avoid disrupting airflow and family harmony.
2	Windows	Wooden lattice windows with patterns such as plum blossoms, "One-Horse Three-Arrows," and fish scales; combine lighting and decorative functions.	Focus on ventilation and lighting, with patterns symbolizing family harmony and balance with nature.	No windows on the back wall, especially in the central room, to prevent "leakage of Qi" and maintain family fortune.
3	Eave Tiles	Decorated with motifs like circular longevity and lotus patterns; functional and ornamental, protecting roof tiles from slipping.	Convey auspiciousness and protection, reflecting local culture and harmony with nature.	Patterns must remain intact; damage affects their symbolic meaning.
4	Column Bases	Drum-shaped or gourd-shaped stone column bases, carved with entwined branch and nail-head patterns; combine load-bearing and decorative functions.	Symbolize stability and harmony, with patterns representing wealth and family honor.	Must be symmetrical and neatly aligned to maintain the overall harmony of the structure.
5	Beams	Carved with dragon heads, lions, and entwined floral patterns; eave frames feature scroll patterns and cloud motifs.	Reflect the concept of "harmony between heaven and humans," emphasizing visual aesthetics and cultural connotations.	Patterns must not be damaged or arbitrarily altered to preserve their auspicious meanings.
6	Courtyards	Quadrangular layouts with a central atrium for ventilation and lighting, often planted with flowers and trees.	Symbolize "yin-yang balance," serving as spaces for harmonious family life and connection to nature.	The atrium should not be cluttered, as this may obstruct airflow and disrupt family fortune.

7	Brackets	Carved with entwined branch patterns and animal motifs, combining structural functionality and decorative beauty.	Balance functionality and aesthetics; convey auspicious meanings through patterns.	Must remain intact, with patterns clear, to ensure both structural stability and visual appeal.
8	Wall Skirts	Made from blue bricks or stone, commonly decorated with lotus and geometric patterns; protect walls while adding decorative value.	Reflect stability and cultural connotations, with patterns symbolizing family prosperity and security.	Must be kept clean and free from water damage or stains to maintain decorative effect and positive energy.
9	Steps	Typical odd-numbered steps made of bluestone or bricks, carved with "Step-by-Step Brocade" or cloud patterns, symbolizing progress and prosperity.	Represent promotion and progress; each step gradually increases in height, symbolizing "rising step by step."	Steps must be symmetrical and even; damage or incorrect numbers can disrupt family fortune.
10	Drainage Outlets	Drainage outlets decorated with stone carvings of copper coins on blue bricks, symbolizing wealth and fortune.	Represent the flow of wealth, with the copper coin motifs symbolizing prosperity and abundance.	Drainage outlets should be kept unblocked and clean to ensure the smooth flow of water and maintain their symbolic meaning.

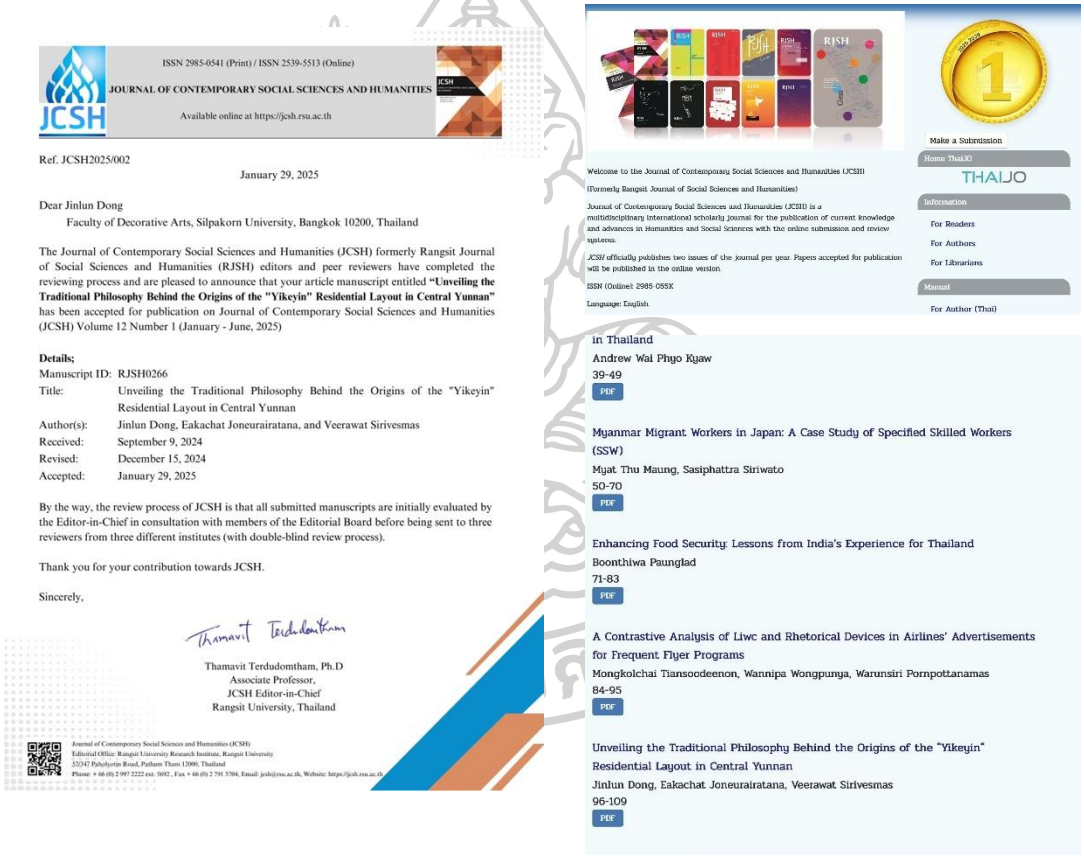
มหาวิทยาลัยศิลปากร

Publication

1. TCI 1 (JCSH) Journal of Contemporary Social Sciences and Humanities Volume 12 No.1 Jan-June (2025)

Unveiling the Traditional Philosophy Behind the Origins of the "Yikeyin" Residential Layout in Central Yunnan

Jinlun Dong, Eakachat Joneurairatana, Veerawat Sirivesmas



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January 29, 2025

Dear Jinlun Dong
Faculty of Decorative Arts, Silpakorn University, Bangkok 10200, Thailand

The Journal of Contemporary Social Sciences and Humanities (JCSH) formerly Rangsit Journal of Social Sciences and Humanities (RJSH) editors and peer reviewers have completed the reviewing process and are pleased to announce that your article manuscript entitled **"Unveiling the Traditional Philosophy Behind the Origins of the "Yikeyin" Residential Layout in Central Yunnan"** has been accepted for publication on Journal of Contemporary Social Sciences and Humanities (JCSH) Volume 12 Number 1 (January - June, 2025)

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By the way, the review process of JCSH is that all submitted manuscripts are initially evaluated by the Editor-in-Chief in consultation with members of the Editorial Board before being sent to three reviewers from three different institutes (with double-blind review process).

Thank you for your contribution towards JCSH.

Sincerely,

Thamavit Terdudomtham, Ph.D
Associate Professor,
JCSH Editor-in-Chief
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2. TCI 1 (ACAAD) Asian Creative Architecture, Art and Design

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An Experimental Design Study on the Modern Transformation of the "Yikeyin" Traditional Dwelling through Participatory Action Research (PAR)

Jinlun Dong, Eakachat Joneurairatana, Veerawat Sirivesmas

Ref. AAD 1738/2025

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24 July 2025

Subject: Article Publication Acceptance

To: Jinlun Dong
Professor Eakachat Joneurairatana, Ph.D
Assistant Professor Veerawat Sirivesmas, Ph.D.

Regarding your submission of the article titled **"An Experimental Design Study on the Modern Transformation of the "Yikeyin" Traditional Dwelling through Participatory Action Research (PAR)"**, for consideration for publication in the academic journal Asian Creative Architecture, Art and Design (ACAAD), ISSN 3027-8201 (Online):

We are pleased to inform you that your article has passed the quality assessment conducted by three independent reviewers from various institutions, none of whom are affiliated with the author. The article has also been approved by the editorial board for publication. Your article will be published on the journal's website: https://so04.tci-thaijo.org/index.php/archkmitl in Volume 39, Issue 1 (January – June), 2026.

This is to inform you officially and to extend our sincere thanks and appreciation.

Yours sincerely,

(Assistant Professor Dr. Poon Khwansuwan)
Editor-in-Chief

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