

The Trình Tường house of the BỐ Y People in Vietnam: A Study on Cultural Heritage and Traditional Architecture

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Abstract

The Trình Tường house (similar Earthen-Walled house), a distinctive architectural form of the BỐ Y people in Vietnam, has embodied both cultural and spiritual values, reflecting their ethnic identity. However, modernization, climate change, and the development of tourism have placed immense pressure on the preservation of this traditional architecture. This paper aims to analyze the cultural and architectural values of the Trình Tường house in the modern context while proposing solutions for its preservation and promotion as a cultural heritage. The research was based on qualitative methods, including field observation, semi-structured interviews with BỐ Y community members, and comparative analysis of traditional architecture from other ethnic minorities in Southeast Asia and worldwide. The findings revealed that the Trình Tường house was not only a physical structure but also a cultural and spiritual symbol, connecting people with nature and belief systems. However, pressures from modernization and climate change have compromised the sustainability of this architecture. The study contributes to cultural ecology theory and offers specific policy recommendations for preserving the Trình Tường house, ensuring the BỐ Y people's cultural identity, and paves the way for future research on traditional architectural conservation in the current context.

Keywords: Trình Tường House, Distinctive Architectural, BỐ Y People, Cultural Ecology, Cultural Identity.

Introduction

The BỐ Y people in Vietnam are divided into two main groups: one residing in Hà Giang Province, referring to themselves as BỐ Y, and the other living in Lào Cai Province, calling themselves Tu Dí (though officially recognized as BỐ Y). According to the 2019 census by the General Statistics Office of Vietnam, the BỐ Y population consists of approximately 3,232 individuals, with 1,161 living in Hà Giang and 1,925 in Lào Cai, while a small number reside in other provinces (Vietnam, 2019). These two groups originate from different branches of the BỐ Y community in Guizhou, China: the Hà Giang group belongs to the Pầu Y branch, while the Lào Cai group belongs to the Pầu Thín branch (Sơn, 1973). Due to differences in their lineage and geographical separation, the BỐ Y people in Hà Giang and Lào Cai are largely unaware of each other, resulting in distinct cultural differences between the two groups. The BỐ Y in Lào Cai have been heavily influenced by Han Chinese culture, leading to the loss of much of their traditional cultural heritage, whereas the BỐ Y in Hà Giang, living in relative isolation, have preserved many unique cultural traits.

In particular, the BỐ Y in Hà Giang possess distinctive cultural values that set them apart from the BỐ Y in Lào Cai. In terms of housing architecture, they have retained many ancient Trình Tường houses and the knowledge of constructing such houses when building new ones. In contrast, their counterparts in Lào Cai have largely transitioned to concrete houses with flat roofs, similar to the architecture of the Kinh people, and no longer build new Trình Tường houses. Therefore, this study focuses on the Trình Tường houses of the BỐ Y people in Hà Giang Province.

Hà Giang, located in the mountainous northwest region of Vietnam, is notable for its complex terrain, including limestone mountain ranges, valleys, and steep slopes. The area is renowned for scenic landscapes

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such as **Quản Bạ** Twin Mountains, **Đồng Văn** Plateau, and **Mã Pí Lèng** Pass. The province is also home to vibrant highland markets, reflecting the cultural diversity of the ethnic groups living there (Vietnam, 2023). The **Bố Y** are primarily concentrated in **Quyết Tiến** commune, a valley surrounded by mountain peaks over 1,000 meters high, in **Quản Bạ** district. They mainly live off agriculture, cultivating rice and corn, and raising buffalo, pigs, and chickens.

Notably, the **Bố Y** have preserved many ancient cultural values passed down from their ancestors in Guizhou, China, with their traditional **Trình Tường** houses standing out. These houses are a key element of the **Bố Y**'s way of life, especially in **Hà Giang**. The architecture is mainly built from rammed earth, providing a sturdy structure that withstands harsh weather conditions. The **Trình Tường** house is not only a place of residence but also holds deep cultural and spiritual values, reflecting the lifestyle, spirituality, and identity of the **Bố Y** people. The continuation of this architectural style is also due to the ecological environment in **Hà Giang**, which closely resembles their ancestral homeland in Guizhou, with rugged terrain, a temperate climate suitable for **Trình Tường** houses, and an abundance of materials readily available for construction.

This study aimed to explore the construction techniques of **Trình Tường** houses, from the process of selecting soil types, mixing and compacting the soil, to the feng shui elements applied during construction. Additionally, the research analyzed the cultural values and spiritual significance associated with the architecture of **Trình Tường** houses. By examining the role of these houses in daily life and their connection to the customs and rituals of the **Bố Y** people, the study provided an in-depth understanding of the cultural value of this architectural form. From the above research purpose, the following research questions were posed:

- What are the main construction techniques and materials used in **Trình Tường** houses?
- How does the architecture of **Trình Tường** houses reflect the cultural and spiritual life of the **Bố Y** people?
- How have cultural changes and the preservation of this architecture occurred under the influence of modernization?

Through these questions, the study clarified the value and significance of **Trình Tường** house architecture, thereby contributing to the preservation and development of the cultural identity of the **Bố Y** people in **Hà Giang** in the modern context.

Literature Review

The history of research on **Trình Tường** houses underwent various stages of development both globally and in Vietnam, reflecting diverse approaches and applications across these fields.

Earthen-walled architecture represented a unique cultural expression among many ethnic minorities in Vietnam, especially the **Hmong** and **Dao** in the northern mountainous regions. According to *Dân tộc* newspaper (2021), this type of architecture was not merely a place of residence but also reflected the cultural, spiritual, and feng shui values of the local communities. **Dương et al.** (2020) emphasized that the design of **Trình Tường** houses showcased the integration of natural and spiritual elements in construction, while also contributing to the rich cultural heritage of Vietnam.

An important aspect of **Trình Tường** houses lay in the technical elements and construction materials. The study by **Dương et al.** (2020) pointed out that these houses had specific geotechnical characteristics that influenced the durability of the structure. Understanding geological factors was necessary to ensure the safety of traditional residential buildings. **Đặng et al.** (2014) also highlighted the geotechnical properties of

the soil used to build these houses, demonstrating the skillfulness in selecting materials that matched local conditions.

Feng shui was a crucial factor in the design of Trình Tường houses. Huynh (2021) and Lee & Jang (2014) emphasized that feng shui principles were applied in the selection of location, house orientation, and space arrangement to create a harmonious living environment, bringing health and prosperity to the homeowners. Chen & Nakama (2004) compiled research on feng shui and its application to environmental issues, stressing the importance of these principles in the construction culture of both Chinese and Vietnamese people. This highlighted the intersection between architecture and belief systems, an indispensable aspect of the spiritual life of ethnic minorities.

Earthen-walled architecture also reflected the interaction between humans and the natural environment. Bruun (2008) and Sutton & Anderson (2020) pointed out that people had adapted to harsh climatic conditions to create unique architectural works that met the living and spiritual needs of the community. Natural factors such as terrain, climate, and local materials greatly influenced the design and construction of Trình Tường houses (Li, 2014; Han, 2001).

However, with the development of modern society, many traditions related to Trình Tường houses were gradually fading away. Studies by *Heritage Vietnam Airlines* (n.d.) and *Lao Cai Tourism* (n.d.) highlighted the importance of preserving this architecture as part of intangible cultural heritage. Preservation was not only for the present generation but also for future generations to maintain a unique cultural identity.

Despite the abundance of literature on other ethnic groups, research gaps remained, particularly the lack of in-depth studies on the Trình Tường houses of the Bõ Y people. Existing studies primarily focused on describing the houses of other ethnic groups such as the Hmong, Hà Nhì, Tày, and Dao, while the cultural elements, construction techniques, and feng shui beliefs associated with the architecture of the Bõ Y people had yet to be fully explored. This study focused on investigating these aspects, proposing solutions to preserve and promote their cultural values in the modern context. It made a significant contribution to preserving and promoting traditional cultural values, as well as applying feng shui knowledge to housing construction suited to Vietnam's climate and geography.

Theoretical Framework

We employed two theories—Feng Shui and Human Ecology—in this study. These two theories were crucial in the research on the traditional architecture of the Bõ Y people. Feng Shui provided a theoretical framework for analyzing their housing layout and design, helping to understand how the living environment was optimized to create harmony and prosperity for the inhabitants. Human Ecology theory highlighted the relationship between humans and the natural environment within the context of the Bõ Y's traditional architecture. It allowed for the study of the interaction between natural and cultural elements and how this community adapted to their living conditions. Together, these theories offered a deep and comprehensive view of how the Bõ Y people constructed and maintained their traditional architecture, reflecting their cultural and spiritual values.

Feng Shui was an ancient system of knowledge in East Asian culture, particularly prevalent in China, relating to the arrangement of living and working spaces in harmony with natural energy. Feng Shui was based on principles such as:

Five Elements: Feng Shui utilized the five elements—Metal, Wood, Water, Fire, and Earth—to analyze and adjust the living environment to achieve balance.

Qi (Energy): Qi was considered the vital energy, and Feng Shui focused on the flow of Qi in space to create comfort and prosperity.

Direction and Position: The orientation and placement of the house or objects in the living space were determined to optimize good energy and minimize negative energy.

Arrangement and Decoration: Elements such as colors, shapes, and furniture layout also affected Feng Shui, helping to create a positive environment for the residents.

Feng Shui not only influenced architecture but was also applied in various fields, from interior design to urban planning, to enhance the quality of life and create harmony with the environment (Bruun, 2008; Chen & Nakama, 2004; Han, 2001; Huynh, 2021; Li, 2014; Luru, 1996; Mak, 2008).

Human Ecology theory examined the relationship between humans and the natural environment, emphasizing that humans could not be separated from their living environment. Some key features of this theory included:

Interactive Relationships: The theory posited that humans and the natural environment continuously interacted. Human actions influenced the environment, while natural conditions also impacted human decisions and behavior.

Ecological Factors: Human Ecology considered ecological factors such as climate, terrain, ecosystems, and natural resources, along with cultural, economic, and social factors, to understand how humans adapted and transformed their environment.

Cultural and Social Features: This theory also emphasized the role of culture and society in shaping how humans interacted with the environment. Customs, beliefs, and cultural values could influence how communities managed and utilized resources.

Sustainability: Human Ecology was often applied in the context of sustainable development, seeking solutions that helped humans live in harmony with nature, protect the environment, and preserve cultural values.

This theory provided insight into how humans could balance development needs with environmental protection, thereby improving quality of life and sustainability for future generations (Sutton, 2020).

Methodology

We used qualitative methods in this study, employing three main approaches: field observations, semi-structured interviews, and comparative analysis of traditional architecture among other ethnic minorities in Southeast Asia and globally.

Field observation was a key tool for directly capturing the traditional architectural elements of the Bõ Y community in Hà Giang. Through survey trips to villages, the author meticulously recorded details of traditional housing architecture, from building materials such as soil, wood, and stone, to construction techniques like wall building, roofing, and interior space arrangement. This method enabled firsthand observation of how the Bõ Y community maintained and practiced cultural values related to architecture, while also understanding the changes and challenges they faced in the modern context.

To gain a deeper understanding of the cultural and spiritual meanings related to the Bõ Y's housing architecture, the author conducted semi-structured interviews with community members, including elders, earthen wall builders, and those preserving traditional customs. These interviews focused on gathering information about the house-building process, rituals, and beliefs related to Feng Shui, as well as the Bõ Y's views on living spaces and the relationship between humans and nature. Semi-structured interviews provided flexibility, allowing interviewees to freely share information while ensuring that the main research topics were addressed.

The study also compared the traditional architecture of the BỐ Y with that of other ethnic minorities in Southeast Asia, such as the Hmong, Hà Nhì, Dao, Tày, and Nùng, and ethnic groups in neighboring countries like Laos and Thailand. Additionally, the study extended the comparison to ethnic minority communities worldwide, such as the Inca in South America and tribes in Africa. This method helped highlight the unique characteristics of BỐ Y architecture in a broader context while exploring similarities and differences among cultures in how they responded to the living environment and natural conditions. The comparison also clarified cross-cultural influences as well as intrinsic factors that led to the development of traditional architecture in minority communities.

We adhered to ethical principles to protect the rights and respect of the BỐ Y community. All participants were clearly informed about the objectives and significance of the research, and their consent to participate was recorded verbally. All personal information of participants was kept completely confidential, with no disclosure of identities without consent. The author also committed to respecting local customs and beliefs throughout the research process, while using the findings responsibly to preserve and promote the cultural values of the BỐ Y community.

Below is a list of BỐ Y individuals who participated in interviews and provided materials:

Table 1. Key Interview Sample Data

No.	Full Name	Year of Birth	Gender	Notes
1	Ngũ Khởi Phụng	1936	Male	Village Elder
2	La Tiến Tài	1938	Male	Shaman
3	Phan Ngọc Sinh	1949	Male	Shaman
4	La Xuân Thành	1957	Male	Shaman
5	U Thị Máy	1940	Female	Owner of Traditional House
6	Lò Thị Liên	1950	Female	Owner of Newly Built House
7	Lò Thị Xuân	1964	Female	Owner of Newly Renovated House
8	Dương Đức Khoan	1945	Male	Owner of Traditional House
9	Vi Chính Toàn	1972	Male	Trowel worker
10	Giàng A Thắng	1975	Male	Trowel worker

Result

Beliefs in Feng Shui When Building Trình Tường Houses

When building a Trình Tường house, the first step the BỐ Y people undertake is to consult feng shui, as they believe that good feng shui ensures luck and prosperity for the family. This foundational belief reflects the cultural significance of their surroundings and is underscored by the insights of community elders and practitioners. For instance, Mr. Ngũ Khởi Phụng (Table 1), a respected village elder, emphasizes the importance of consulting experienced feng shui masters to evaluate the location and direction of the house. He states, “Homeowners always have to perform all the sacred rituals to connect with the deities and ancestors during the building process to ensure that the house construction goes smoothly.”

In feng shui practice, the careful selection of land and the auspicious date to begin construction is undertaken with meticulous attention. The BỐ Y people believe that a piece of land with favorable feng shui will bring stability and growth to the family. Therefore, they often seek knowledgeable figures like shamans to determine an auspicious start date while avoiding bad days or unlucky stars that could lead to misfortune. According to Mr. La Tiến Tài and Mr. Phan Ngọc Sinh (Table 1): “The groundbreaking day

has to be an auspicious day, not conflicting with the homeowner's age, for everything to go smoothly and peacefully.”

The direction of the house constitutes another vital feng shui consideration. Based on the homeowner's age, the BỔ Y people carefully choose the house orientation to attract luck, invite natural light, and allow for a refreshing breeze. They also consider the surrounding terrain and water sources, which ensure a favorable living environment while mitigating adverse natural elements like drafts or flooding. Furthermore, the BỔ Y people apply strategies to harmonize feng shui principles with natural features; for instance, the side of the house closer to a water source is typically used as the kitchen.

Moreover, worship rituals play an integral role throughout the construction process. Before commencing construction, the homeowner commonly holds a groundbreaking ceremony, offering prayers to Lo Ban, the patron saint of construction, to ensure safety and smoothness (Phuong, 2005). During the construction phase, rituals such as the beam-laying ceremony, roof-laying ceremony, and housewarming ceremony are conducted to maintain harmony between humans and supernatural forces. These rituals, highlighted by the involvement of all family members along with the shamans, not only seek prosperity but also demonstrate respect for ancestors and deities. This approach ensures safety and stability for the house throughout its lifespan, reflecting the deep cultural ties that the BỔ Y people maintain with their ancestral traditions.

The Technique of Building Trình Tường Houses

The BỔ Y people have a unique method of constructing their Trình Tường houses, deeply reflecting their beliefs in feng shui. Once the homeowner identifies a suitable plot of land, they begin extracting clay from carefully selected locations. Tools such as hoes, shovels, measuring lines, and wooden molds are meticulously prepared, along with stones for the foundation.

Before construction begins, families typically hold a ceremony to pray to Lo Ban, the deity that protects construction work, ensuring everything proceeds smoothly. An elder, Mr. Ngũ Khởi Phương (Table 1), emphasizes, “We always seek blessings from Lo Ban before starting construction. This is crucial for ensuring our work is safe and successful.” After these rituals, they start building the foundation by stacking stones and compressing clay on top. The clay is mixed with water to an appropriate consistency—neither too dry nor too wet—and then compacted into layers. It is essential that no one walks over the freshly compacted area, as this is believed to bring bad luck according to local customs.

The next step is to build the walls. Craftsmen use wooden molds to pour and compress the clay into layers. To ensure stability and smoothness, each layer of clay is carefully compacted in small amounts, with typically only one layer completed in a day. When the walls reach a certain height, around seven layers, the main door is installed. Workers then continue to raise the walls until the house reaches its maximum height, usually between 5.5 to 6.5 meters.

Each part of the Trình Tường house serves a specific function. The 50 cm thick walls ensure the house's sturdiness. Besides protecting against wild animals, these walls also help regulate temperature, keeping the house warm in winter and cool in summer. Mr. La Tiến Tài (Table 1) remarks, “The thickness of the walls is very important. They provide not only strength but also create a comfortable living environment.” The house's columns, made from lat wood (a rare indigenous species), are carefully selected from nearby forests, enhancing the structure's durability and longevity.

The loft inside the house serves multiple purposes. It is not only a storage space for food but also a sacred area for keeping ritual items like ceremonial drums. Importantly, the loft never covers the area above the altar, as the BỔ Y believe this is the pathway for the souls during funerals. As Mr. Phan Ngọc Sinh (Table 1) explains, “The loft must always remain open above the altar; this is where our ancestors' souls ascend to heaven.” This belief underscores the ecological cultural theory, highlighting the connection between physical space and spiritual beliefs.

The roof of a Trình Tượ̀ng house is typically thatched with grass, straw, or tiled, depending on the homeowner's financial condition. Tiled roofs facilitate water drainage and provide insulation. Beyond their practical function, the roofs symbolize the journey of the deceased's soul as they ascend to heaven, representing the connection between the material and spiritual worlds. Mr. Ngũ Khợ̉i Phượ̀ng (Table 1) further explains, "Our roof is not just for shelter; it represents the journey of our loved ones to heaven, connecting us with our ancestors." This connection between material culture and spiritual beliefs illustrates how the Bợ̉ Y people maintain their cultural identity and ecological harmony.

Living Space and Social Roles in A Trình Tượ̀ng House

The interior space of a Trình Tượ̀ng house was not only a living area but also a profound reflection of the Bợ̉ Y's cultural customs, family relationships, roles of each member, and folk beliefs. The arrangement of the house strongly emphasized traditional values and the Bợ̉ Y's cultural identity.

The house was usually divided into distinct areas. The center of the house was where the ancestral altar was placed, and it also served as a space for hosting guests and family gatherings, where members chatted and shared meals. The sleeping quarters were arranged on either side, with clear distinctions between men and women. For instance, the kitchen was always next to the women's sleeping area, as they were responsible for cooking. Additionally, the Trình Tượ̀ng house always included a loft, which never covered the space above the altar and was used as the sleeping area for unmarried sons in the household.

On a social level, the living spaces of each family member reflected their status and role. Older family members, particularly men, were given prominent positions, while women and children were placed in areas more convenient for domestic work, reflecting the traditional patriarchal culture of the Bợ̉ Y, where men held the decision-making power.

The ancestral altar space was always placed in the most important area of the house, located in the center with an unobstructed path above the roof. This was where the family's major rituals took place, such as the ritual of opening the roof for the soul of the deceased to ascend to heaven during funerals, and for ancestors to descend to visit their descendants. Therefore, this space was not only a spiritual and worship area but also a connection between generations, where cultural values and traditions were passed down and shared with visitors.

Elder La Tiệ̉n Tậ̀i (Table 1) explains, "The layout of the house reflects our values; it shows respect for our ancestors and clearly defines the roles within the family." This perspective underscores the relationship between physical space and cultural identity, as the architecture serves as a living testament to the Bợ̉ Y's beliefs and customs. Similarly, elder Phan Ngọ̉c Sinh (Table 1) adds, "Every part of the house has its purpose, from the kitchen next to the women's area to the loft for the unmarried sons; it all connects back to our traditions." This highlights how the spatial organization in the Trình Tượ̀ng house is intricately linked to the Bợ̉ Y's ecological cultural theory, emphasizing the connection between their environment and belief systems.



Photo 1. A Trình Tường house of Bõ Y people. Quyết Tiến Commune. Quận Bạ District. Hà Giang province April 16, 2006. First Author's photo.

Symbolism in Bõ Y Housing Architecture

The architecture of the Bõ Y's housing not only served as a living space but also symbolized a deep connection between humans, nature, and supernatural forces. It reflected a harmonious way of life with the natural environment and showed respect for traditional cultural values and beliefs. The symbolism within their housing architecture was evident through various elements such as shape, materials, and spatial organization.

Firstly, the traditional Bõ Y house typically featured earthen walls, which illustrated their closeness to the land and nature. They believed that using earth as a building material helped maintain balance and harmony with the environment. The earth was also seen as a protective element, shielding individuals from adverse external factors, including natural disasters, wild animals, and supernatural influences.

Every detail in the housing architecture carried significant symbolic meaning. For example, the choice of house orientation and construction site depended not only on the terrain but also adhered to strict feng shui principles. The house orientation had to align with the owner's destiny and the natural conditions to ensure prosperity, luck, and protection for the family. These principles reflected the Bõ Y's profound belief in the connection between humans and the supernatural world.

A notable aspect of the Bõ Y housing architecture was the involvement of spiritual rituals during the building process. During construction, the Bõ Y often performed ceremonial offerings to seek permission from the deities and ancestors, aiming to protect the house from malevolent forces and bring peace to family members. The house's pillars, especially the main pillar, were regarded as sacred places, linking the human world to the spiritual realm; thus, the main pillar ceremony was the largest among the house-building rituals.

The BỐ Y also demonstrated flexibility in their architecture by adjusting designs according to natural conditions. For instance, if the water source was located on the left, the kitchen might be placed on that side rather than the right. This not only showed their adaptability but also expressed respect for nature and the living environment.

The symbolic nature of the BỐ Y's housing architecture was not limited to materials and shapes but also extended to how they organized their living spaces. The division of space among family members reflected the social hierarchy and the roles of each person in BỐ Y society. The space dedicated to ancestors, where worship took place, was always positioned in a prominent area of the house, showing reverence for the ancestors, while men were typically placed in more spacious areas than women.

These elements combined to create a living space that was not merely a shelter but a part of a cultural and spiritual system, clearly demonstrating the connection between humans, the environment, and the spiritual world.

Changes in Trình Tường house Architecture

The process of modernization and urbanization has significantly impacted the housing architecture of the BỐ Y people, especially the traditional earthen-wall houses. Previously, these homes were primarily constructed from clay and local wood, reflecting a deep connection to the natural environment and the ecological conditions of the region. However, in the current context, the scarcity of traditional building materials such as wood and clay has posed significant challenges in maintaining this architectural style.

Interviews with homeowners like LỖ Thị Liên and Lò Thị Xuân (Table 1) indicate that the quality of new building materials, including bricks and concrete, often does not meet the previous standards. Many families have had to replace earthen walls with brick walls to ensure the durability and resilience of their homes. Trowel workers Vi Chính Toàn and Giàng A Thắng expressed, "We used to build houses with clay that felt very convenient, but now homeowners prefer bricks to ensure the walls don't get damaged." This sentiment underscores a shift toward prioritizing practicality over cultural inheritance.

Additionally, the traditional tile roofs, an essential feature of BỐ Y architecture, are gradually being replaced by modern materials like proximang or metal sheets. These choices are often made for cost-saving reasons and easier maintenance in harsh weather conditions. As Lò Thị Xuân remarked, "Metal roofs are cheaper and easier to maintain, though they lack the warmth and beauty of traditional tile roofs." This reflects the tension between practicality and cultural heritage.

The repair and maintenance of traditional houses also show significant transformation. When earthen walls crack, they are often not repaired with clay as before; instead, bricks and cement are used for reinforcement. This change diminishes the original architectural value and reflects the pressures of modernization on traditional building methods.

Families living along the national highways increasingly prefer modern architectural styles, such as concrete houses with flat roofs, over traditional designs. One resident commented, "Building a modern house feels more sensible for my family." LỖ Thị Liên stated, "We need a design that fits today's lifestyle." This shift not only reflects changes in aesthetic preferences but also leads to significant alterations in lifestyles and spiritual practices. Modern homes often lack strong cultural imprints, reducing the symbolic and artistic value of traditional architecture. Furthermore, the absence of suitable spaces for spiritual rituals—such as creating a pathway to the sky through the roof or participating in traditional singing around the fire—is indicative of a disconnection from cultural heritage.

In conclusion, the evolution of BỐ Y housing architecture within the context of modernization and urbanization raises important questions about the preservation of cultural identity and the impact of modern pressures on traditional practices. This situation highlights the necessity to further explore the intersections of culture, architecture, and environment, especially within the framework of ecological

cultural theory. As communities face these changes, the challenge lies in seeking a balance between embracing modernity and honoring traditional values.



Photo 2. A Semi-Traditional Rammed Earth House Next to A Newly Built Brick House. Quyết Tiến Commun. Quận Bạ District. Hà Giang Province. July 24, 2011. First Author's Photo.

Discussion

The Trình Tường house holds deep cultural and spiritual values, contributing to the preservation of the identity of the Bõ Y ethnic group. These houses embody the harmony between humans and the environment, and between material and spiritual life. It is a lifestyle closely connected to nature, utilizing available materials from the living environment while adhering to strict rules of feng shui and folk beliefs. Every detail in this architecture carries symbolic meaning, from the selection of the house's location and orientation to the rituals associated with building it.

The architecture of the Bõ Y's Trình Tường houses shares similarities and differences with the architecture of other ethnic minority groups in Southeast Asia and around the world. Technically, the use of clay and wood in construction is a common method among many ethnic cultures, such as the Hmong and Dao peoples in Laos, Cambodia, or southwestern China. These cultures also build homes based on feng shui principles and traditional beliefs, reflecting a close relationship between humans and nature (Dân tộc News, 2021, 2023; Dương et al., 2020; Đặng et al., 2014; Đinh, 2012; Lee & Jang, 2014; Li et al., 2021; Nguyen et al., 2020; Phạm, 2011).

However, the Bõ Y's Trình Tường house architecture has unique cultural symbolism and construction methods. The rituals and beliefs related to the construction of the Bõ Y house are deeply spiritual and strongly connected to ethnic traditions. In contrast, some other cultures may focus more on the practical aspects or security than the spiritual aspects. Bõ Y architecture particularly emphasizes the balance between the natural and spiritual environments, a unique value that few other cultures possess.

Climate change presents new challenges to the traditional architecture of the BỐ Y people. Changes in natural conditions, such as heavy rains, soil erosion, and extreme weather events, make Trình Tường houses more vulnerable to damage, leading many people to switch to modern materials like tin and cement to maintain their homes. The Trình Tường house is not only an architectural heritage but also an integral part of the BỐ Y's cultural life. Sustainable tourism development could help preserve and promote this architecture globally while creating income for the local community. Qualitative surveys show that the BỐ Y, especially the older generation, still believe that Trình Tường houses are an important symbol of their culture and heritage, preferring them over modern houses. However, changes in materials and construction methods are gradually eroding the traditional architecture. Although many people want to preserve it, economic difficulties and limited material resources have restricted the ability to maintain these traditional houses in their original form. Therefore, some people have accepted the change, believing that the use of modern materials is necessary to ensure sustainability and compatibility with modern living conditions. Nevertheless, there are those who oppose replacing traditional architecture entirely with new materials, arguing that it diminishes the profound cultural value of the house.

It is evident that balancing the need for modernization with the preservation of traditional architecture is becoming a major challenge for the BỐ Y people. To preserve the Trình Tường houses of the BỐ Y in the current context, a variety of effective solutions need to be implemented. These proposals, drawn from the research results, are not only aimed at maintaining cultural value but also at promoting sustainable development for the community.

Firstly, it is necessary to raise community awareness about the cultural value of traditional architecture. Organizing workshops, educational programs, and communication campaigns will help people better understand the importance of the Trình Tường house, thereby inspiring a sense of preservation within the community. At the same time, experts in the fields of culture and architecture could be invited to participate in conveying knowledge and preservation experiences.

Secondly, encouraging the application of new technologies in preserving Trình Tường houses is crucial. Using modern methods to inspect and maintain the quality of the buildings can help detect issues early and improve preservation efforts. Environmentally friendly materials should also be prioritized in the repair and preservation process to ensure the sustainability of the structures.

Thirdly, developing sustainable cultural tourism is another important solution. Tourism activities should be designed to respect and preserve the cultural value of Trình Tường house architecture. Combining sightseeing with cultural experiences, such as traditional festivals or artistic performances of the BỐ Y people, will provide opportunities for tourists to better understand and appreciate the local culture.

Additionally, local authorities need to develop specific conservation policies, such as urban development planning that takes into account the protection of traditional architectural structures. Financial and technical support mechanisms should be in place for families with Trình Tường houses, encouraging them to maintain and restore the buildings.

The above solutions, when implemented in a coordinated manner, will greatly contribute to the preservation of the precious cultural heritage of the BỐ Y people in the modern context.

Conclusion

This article has provided an in-depth view of the architecture of the BỐ Y's Trình Tường houses, not only from a technical construction perspective but also from cultural and spiritual angles. This architecture reflects not only essential material values for daily life but also deep cultural symbols, contributing to the shaping of the BỐ Y ethnic identity amid modernization.

The research findings contribute to the theory of Cultural Ecology by revealing that Trình Tường houses are not just dwellings but also symbols of culture and spirituality. This architecture clearly exhibits elements of feng shui and belief, affirming the connection between humans, nature, and metaphysical elements. The article emphasizes the role of architecture in maintaining the cultural identity of the BỐ Y people, while also pointing out that the preservation of traditional cultural values remains necessary in the modern context.

Furthermore, we expanded the comparison of the BỐ Y's Trình Tường house architecture with that of other minority cultures in Southeast Asia and around the world. The similarities and differences in construction techniques and related cultural symbols highlight the diversity and richness of cultural expression among ethnic communities. This not only enriches knowledge about the BỐ Y culture but also lays the foundation for comparisons with other cultures, contributing to the research and preservation of minority cultures.

The research also identified new challenges posed by climate change and tourism development to the architecture of the Trình Tường houses. Factors such as changes in natural conditions have affected construction techniques and the materials used, making it harder to preserve traditional architecture. However, if developed sustainably, cultural tourism could become a vital resource for preserving and enhancing the value of this architecture.

Additionally, the research has offered specific proposals for policies to preserve Trình Tường house architecture, from raising community awareness about the cultural value of traditional architecture to applying new technologies in preservation. These solutions aim not only to maintain the cultural identity of the BỐ Y people but also to create economic opportunities for the local community through sustainable tourism.

The findings from this research open up future research directions, particularly in exploring renovation techniques for deteriorating Trình Tường houses. Developing appropriate conservation methods will not only help preserve the architectural value but also protect the cultural identity of the BỐ Y people. Furthermore, research should also focus on leveraging cultural tourism as a key resource to support preservation. By building sustainable tourism programs related to cultural heritage, it is possible to raise community awareness about the value of Trình Tường house architecture while creating economic opportunities for local residents. This research direction aims not only to protect cultural heritage but also to promote sustainable community development.

References

- Báo Dân tộc. (2021, June 15). Nhà trình tường: Nét văn hóa đặc sắc của người Mông [The unique cultural features of the Hmong's rammed earth houses in Đổng Văn]. Báo Dân tộc. <https://baodantoc.vn/nha-trinh-tuong-net-van-hoa-dac-sac-cua-nguoi-mong-o-dong-van-1623642265739.htm/>
- Báo Dân tộc. (2023, June 11). Nét đẹp kiến trúc nhà trình tường của người Dao Tiền [The beauty of the rammed earth houses of the Dao Tiền people]. Báo Dân tộc. <https://baodantoc.vn/net-dep-kien-truc-nha-trinh-tuong-cua-nguoi-dao-tien-1686124407197.htm/>
- Bruun, O. (2008). An introduction to feng shui. Cambridge University Press.
- Chen, B. X., & Nakama, Y. (2004). A summary of research history on Chinese Feng-shui and application of Feng-shui principles to environmental issues. *Kyusyu Journal of Forestry Research*, 57(3), 297-301.
- Cổng Thông tin Điện tử Đảng Cộng sản Việt Nam. (n.d.). Kiến trúc độc đáo của nhà trình tường của người Mông [The unique architecture of the Hmong's rammed earth houses]. Cổng Thông tin Điện tử Đảng Cộng sản Việt Nam. <https://dangcongsan.vn/van-hoa-vung-sau-vung-xa-bien-gioi-hai-dao-vung-dan-toc-thieu-so/tu-truyen-thong-toi-hien-dai/doc-dao-kien-truc-nha-trinh-tuong-cua-nguoi-mong-584410.html/>
- Cuongdulich. (n.d.). Nhà trình tường [Rammed earth houses]. Cuongdulich. <https://cuongdulich.com/dia-diem/2884-nha-trinh-tuong.html/>
- Dương, N. T., Nguyệt, N. Á., Hướng, N. V., Schimmelmänn, J., Thái, N. Đ., Schimmelmänn, M. N., & Schimmelmänn, A. (2020). The effect of air circulation on radon concentrations in rammed earth houses in the Đổng Văn plateau. *VNU Journal of Science: Earth and Environmental Sciences*, 36(1).
- Đặng, V. L., Nguyễn, Q. H., & Trần, M. L. (2014). Research on some mechanical and physical characteristics of soil used for rammed earth houses in Mèo Vạc, Hà Giang Province. *VNU Journal of Science: Earth and Environmental Sciences*, 30(4).

- Đính, B. X. (2012). Các dân tộc ở Việt Nam [Ethnic groups in Vietnam]. Thời đại Publishing House.
- Han, K. T. (2001). Traditional Chinese site selection-Feng Shui: An evolutionary/ecological perspective. *Journal of Cultural Geography*, 19(1), 75-96.
- Heritage Vietnam Airlines. (n.d.). Nhà đất trình tường ở vùng cao [Rammed earth houses in the highlands]. Heritage Vietnam Airlines. <https://heritagevietnamairlines.com/nha-dat-trinh-tuong-o-vung-cao/>
- Huynh, V. D. (2021). Phong thủy thực hành và kiến trúc nhà ở [Practical feng shui and housing architecture]. Hồng Đức Publishing House.
- Lao Cai Tourism. (n.d.). Khám phá kiến trúc nhà trình tường của người Hà Nhì [Exploring the rammed earth houses of the Hà Nhì people]. Lao Cai Tourism. https://laocaitourism.vn/vi/detailnews/?t=cung-kham-pha-tim-hieu-kien-truc-nha-trinh-tuong-cua-nguoi-ha-nhi&id=news_2071/
- Lee, S. S., & Jang, M. R. (2014). A study on spatial structure characteristics of earthen walled fortresses. *Journal of the Korean Institute of Traditional Landscape Architecture*, 32(1), 74-82.
- Li, H. (2014). Analysis of the application of traditional "Feng Shui" theory in modern home space. *Studies in Sociology of Science*, 5(3), 105.
- Li, T., Yao, S., He, L., Yu, X., & Shan, S. (2021). Compositional study of household ceramic assemblages from a Late Neolithic (5300–4500 cal BP) earthen walled-town in the middle Yangtze River valley of China. *Journal of Archaeological Science: Reports*, 39, 103159.
- Lưu, B. Ôn. (1996). Địa lý toàn thư (Lý thuyết phong thủy) [Complete geography (Feng Shui theory)]. (3 Volumes). Volume 3. Hà Nội: Văn hóa và thông tin. <https://thuvienso.dau.edu.vn:88/handle/DHKTDN/1652>
- Mak, M. Y., & Ng, S. T. (2008). Feng shui: An alternative framework for complexity in design. *Architectural Engineering and Design Management*, 4(1), 58-72.
- Nguyen, T. D., Nguyen, A. N., Nguyen, V. H., Jan, S., Nguyen, D. T., & Arndt, S. (2020). Radon concentrations and their controlling factors in mud-built houses in Dong Van Plateau Karst Geopark, Ha Giang Province. *VNU Journal of Science: Earth and Environmental Sciences*, 36(1).
- Phạm, M. P. (2011). Nhà ở của người Dao áo dài ở tỉnh Hà Giang [Housing of the Dao with long dresses in Hà Giang Province]. (Unpublished manuscript).
- Phượng, N. K. (2005). Văn hóa của người Bồ Y ở Việt Nam [The culture of the Bồ Y ethnic group in Vietnam]. (Unpublished manuscript).
- Sơn, C. T. (1973). Bản tin dân tộc học số 3/1973 [Ethnology Bulletin No. 3/1973]. Vietnam Academy of Social Sciences.
- Sutton, M. Q., & Anderson, E. N. (2020). An introduction to cultural ecology. Routledge.
- Tài, L. T. (1960). Khảo xâu đình [Unpublished manuscript].
- Việt, T. Q. (2015). Âm nhạc dân gian của người Bồ Y và các vấn đề văn hóa liên quan [Folk music of the Bồ Y people and related cultural issues]. Thế giới Publishing House.
- Vietnam General Statistics Office. (2019). Niên giám thống kê Việt Nam [Statistical yearbook of Vietnam]. General Statistics Office of Vietnam.
- Vietnam, H. P. (2023). Giới thiệu tổng quan về Hà Giang [Overview introduction to Ha Giang]. <https://hagiang.gov.vn/dieu-kien-tu-nhien/gioi-thieu-tong-quan-ve-ha-giang-250631>.