

Impacts of Culture on Traditional Housing Architecture of Ethnic Minority in the Vietnamese Northern Mountains

Bao Tran Quoc^{1*}, Thi Nguyen Dinh¹, Khai Mai Quang²

¹Hanoi University of Civil Engineering, Faculty of Architecture and Planning, 55 Giai Phong Road, Hanoi, Vietnam.

²Ph.D, Dongyang Structural Engineers Group, Seoul, South Korea.

*Corresponding author: Thind@huce.edu.vn, maiquangkhai88@gmail.com

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ABSTRACT

Under the impact of urbanization as well as the influence of cultural exchanges between ethnic groups and the need to develop housing in the modernity direction of the northern mountainous people, the construction of buildings with traditional housing architecture characteristics is gradually decreased. It is highly possible that the traditional heritage of ethnic communities will gradually be forgotten if the mutual influence relationship between traditional culture and architectural housing is not being paid sufficient attention. In order to provide insight into traditional housing architecture and guide the preservation and development of residential architecture, the research aims to identify the influences of traditional culture on residential architectural space. The article employs a variety of techniques, including field surveys, analysis and evaluation of real-world scenarios, overviews of related studies, and the inheritance of secondary data from earlier research endeavors to accomplish the suggested research goals. The study focuses on analysing the following five categories of traditional housing architecture, which are: 1) The influence of living culture; 2) The influence of costume culture; 3) The influence of labor and production culture; 4) The influence of culture, lifestyle, local customs and practices; and 5) The influence of religious culture.

1.0 INTRODUCTION

UNESCO (2001) defined culture ‘as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, that encompasses, not only art and literature, but lifestyles, ways of living together, value systems, traditions, and beliefs. Herbig and Dunphy (1998) and Dubina et al. (2016) defined culture as a system shared by members of entities such as societies, nations, or governments. Culture thus generally has three attributes that support its diffusion within societies: 1) shareability; 2) transferability; and 3) a contextual nature.

According to John Hendrix (2012), architecture can be seen as the psyche, or collective mind, in spatial and structural form, of a culture. Until the invention of the printing press, architecture was the primary means of the expression and communication of the ideas, values, and beliefs of a culture. However, there are important ways in which architecture is still capable of more completely communicating the human condition than the printed word. Thus, architecture and culture are inextricably linked and interdependent.

Numerous distinctive traditional ethnic cultures regarding housing architecture, cuisine, attire, brocade weaving, festival culture, customs, lifestyles, and production can be found in Vietnam's northern mountainous region. There must be a close, organic relationship between traditional culture and housing architecture in order to preserve and promote the rich traditional cultural heritage values mentioned above. In order to guide the development of housing architecture in the northern mountainous ethnic minorities imbued with national cultural identity, it is necessary to identify traditional cultural influences on housing architecture, such as living culture; costumes, labor, production, and livelihood activities; lifestyles, traditional customs, and religions.

One of the basic characteristics of culture is its value. The value of culture is a measure of the humanity level of people and social communities. Since then, culture is considered an organic unity of material values and spiritual values created by humans, accumulated through the process of production, communication, and interaction between humans and the natural environment and social environment. In particular, material culture for traditional housing architecture is the physical products, equipment, and tools created and built by humans such as houses, costumes, stoves, beds, cabinets, tables, chairs and other items serving life such as eating, living, daily activities, labor and human production. Spiritual culture for traditional housing architecture includes people's lifestyle, customs, traditions, religions, worship, and festivals. Material culture and spiritual culture are always closely and organically related to each other. For architecture, it includes both the spirit and material of culture. Material culture is expressed in the shape, color, materials, and construction technology of architectural works, while spiritual culture is expressed inside architectural works. Addressed within the architectural design, it will respond to queries like: What is the use value of the building? What is the meaning of building architectural shapes? What is the local traditional cultural value of the project? What is the organic relationship between the microclimate inside the building and the local climate conditions? How well is the project able to adjust to the topography, geology, hydrology, and landscape environment?

Thus, the objective of a research article is to pinpoint the ways in which traditional culture has influenced traditional housing architecture, with a particular emphasis on five categories of culture: living culture, costumes, labor and production, lifestyles, traditions and customs, and cultural beliefs and religions. In order to preserve and promote the values of traditional housing architecture among ethnic minorities in the Northern mountainous region, it then helps to gain insight into traditional cultural values in relation to housing architecture. This helps to preserve traditional cultural values imbued with national identity.

The research methods used in this study are as follows: 1) Gathering, compiling, and combining relevant documents in order to examine the study, and then evaluating the published research findings to identify any knowledge gaps and formulate future research questions; 2) Field surveys at 24 ethnic minority villages in the Northern mountainous region by sketching, taking pictures, observing, and conducting statistical work; 3) Analysis and evaluation techniques are applied based on the appraisal and analysis of the real situation as well as published research results in order to make recommendations for the research that are impartial and unduplicated; 4) Secondary data from earlier research projects is inherited through the use of the inheritance method.

2.0 CURRENT STATUS OF TRADITIONAL HOUSING ARCHITECTURE IN THE NORTHERN MOUNTAINOUS REGION

The northern mountainous region of Vietnam including 11 provinces: (1) Ha Giang, (2) Cao Bang, (3) Bac Kan, (4) Tuyen Quang, (5) Lang Son, (6) Lao Cai, (7) Yen Bai, (8) Dien Bien, (9) Lai Chau, (10) Son La and (11) Hoa Binh, is a place with a strategic position in terms of security and defense as well as having a lot of potential for economic and tourism culture development. This is also the residence home of more than 29 ethnic minorities including: Tay, Nung, Thai, Mong, Dao, Muong, Cao Lan, San Chi, San Diu, Ha Nhi, La Phu, Phu La, Giay and some other ethnic groups, with a total population of more than 7 million people.

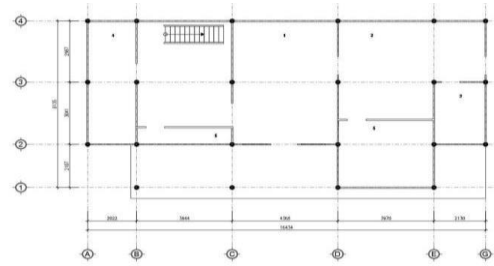
The Northern Mountainous Region has an overall area of 84,231.73 km² and a population of 8,210,012, the majority of whom are ethnic minorities (6,362,308 people, or 77.49%). These figures are based on statistical data from 2021. Table 1 shows the number of ethnic minorities from the biggest to the smallest (General Statistics Office, 2022).

Table 1. Ethnic minority population statistics in the northern mountainous region.

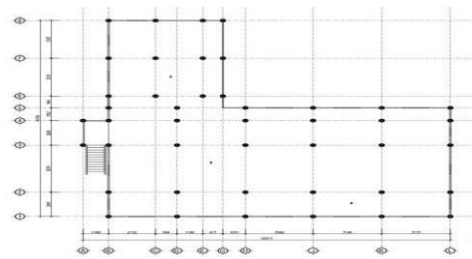
No	Provinces	Area (km ²)	Population (people)	Ethnic minorities population (people)	Proportion of ethnic minorities (%)
1	Son La	14,109.83	1,287,720	1,084,712	84.23
2	Ha Giang	7,927.55	887,086	776,756	87.56
3	Lang Son	8,310.18	796,940	665,445	83.50
4	Hoa Binh	4,590.30	871,720	633,741	72.70
5	Lao Cai	6,364.25	761,890	567,224	74.44
6	Dien Bien	9,539.92	625,090	516,450	82.62
7	Cao Bang	6,700.39	533,086	505,916	94.90
8	Yen Bai	6,892.67	842,670	492,002	58.38
9	Tuyen Quang	5,867.95	801,670	428,770	53.48
10	Lai Chau	9,068.73	478,430	405,197	84.69
11	Bac Kan	4,859.96	323,710	286,095	88.38
	Total	84,231.73	8,210,012	6,362,308	77.49

The research team carried out three surveys in the mountainous region of Northern Vietnam in March, July 2022, and April 2023. 24 ethnic minority villages in the northern mountainous region were among the survey subjects. Eight ethnic groups are found in Ha Giang province: Mong, Dao, Giay, Lo Lo, Pa Then, Co Lao, Bo Y, Pu Peo; Six ethnic groups are found in Dien Bien province: Thai Den, Lao, Khang, Cong, Phu La, Si La; Four ethnic groups are found in Lai Chau province: Kho Mu, Lu, Mang, White Thai; Four ethnic groups are found in Tuyen Quang province: Tay, Cao Lan, Nung, San Diu; Two ethnic groups are found in Son La province: Xinh Mun and La Ha; and Ha Nhi ethnic group is found in Lao Cai province. The following conclusions about traditional culture and architecture have been drawn by the study based on the survey results as well as findings from domestic and international research:

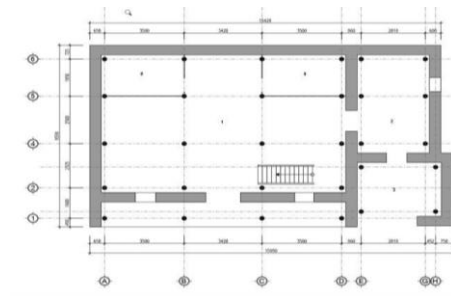
- The Northern mountainous region has a very diverse traditional house architecture and rich indigenous architectural and cultural values because each ethnic group has distinct traditional culture, customs, lifestyles, and residential areas. The traditional housing architecture of ethnic minorities in the Northern mountainous region currently preserves two sets of values: Important cultural and architectural legacy is the first value group of tangible culture, and it must be protected and developed in order to support the development of housing for ethnic minorities architecture; The second category of values is intangible culture, which includes ethnic minorities' customs, beliefs, and lifestyles. These can be preserved through preserving and promoting values of traditional housing architecture. Thousands of generations of traditional culture have accumulated both of these sets of values in traditional housing architecture (Tung, 1996) (Figure 1).



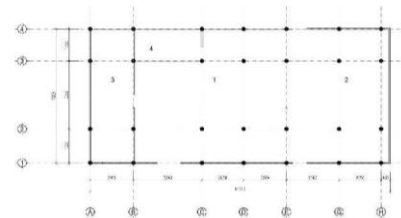
a. Traditional housing architecture of H'Mong ethnic group (“H'Mong”)



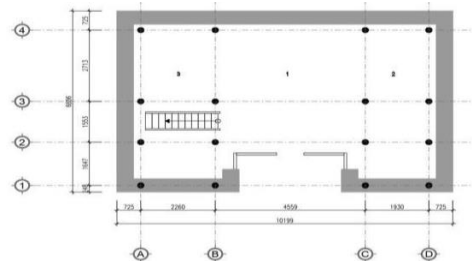
b. Traditional housing architecture of Tay ethnic group (“Tày”)



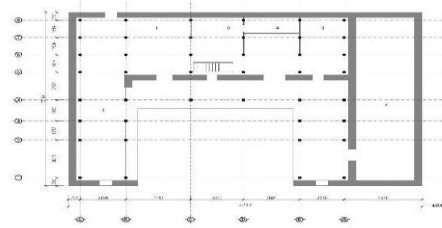
c. Traditional housing architecture of Giáy ethnic group (“Giáy”)



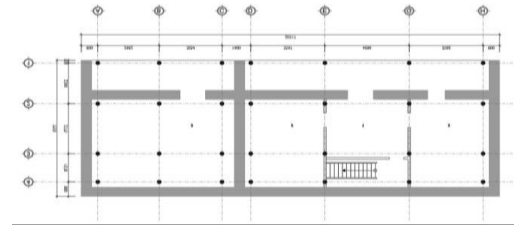
d. Traditional housing architecture of Pa Then ethnic group (“Pả Thẻn”)



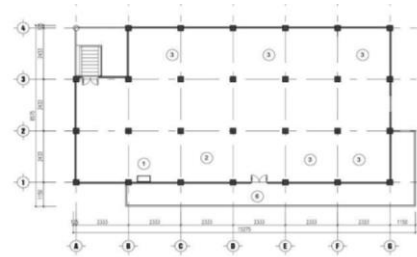
e. Traditional housing architecture of Co Lao ethnic group (“Cờ Lao”)



f. Traditional housing architecture of Bo Y ethnic group (“Bồ Y”)



g. Traditional housing architecture of Pu Peo ethnic group (“Pu Péo”)



h. Traditional housing architecture of Khang ethnic group (“Kháng”)

Figure 1. Traditional housing architecture of some ethnic minority groups in the northern mountainous areas of Vietnam.

(Source: By Authors)

- The economic, cultural, and social divide between mountainous and lowland areas is currently being closed by the policy of improving ethnic minorities' housing conditions in conjunction with new rural development. This has given the northern mountainous ethnic groups' housing architecture a new image (Government of the Socialist Republic of Vietnam, 2019). Furthermore, migration between ethnic groups and between lowland and mountainous areas brought about by economic development has resulted in the mixing of various ethnic groups, changing the cultural diversity of the northern mountainous areas. Significant alterations have also occurred in the socio-cultural and economic milieu of the mountainous ethnic minorities as a result of these impacts. The traditional architecture was one of the many aspects that underwent transformation. The number of traditional houses in the northern mountainous provinces is declining as a result of the arbitrary expansion and renovation of traditional houses or the emergence of "urban" housing types. According to data from the General Statistics Office in partnership with the Ethnic Committee for Ethnic Minorities in Vietnam, in 2019, 26.2% of households were living in traditional houses belonging to their ethnic group, a decrease of 3.1% percentage points from 2015 (29.3%) (General Statistics Office in collaboration with the Committee for Ethnic Minorities, 2019). The research team's statistics from 24 ethnic minority villages in the Northern Mountainous Region show that by 2022, traditional houses only make up 20.2% of all the houses in the area. This deforms and erodes the precious traditional cultural values of ethnic minorities, affecting their living space and environment as well as the cultural values of traditional housing architecture (Figure 2).



Figure 2. A few recently constructed homes deviate from the traditional housing architecture style.
(Source: By Authors)

3.0 A SUMMARY OF RELEVANT RESEARCH PROJECTS

Researchers from Vietnam and other countries are paying attention to the issue of how traditional culture affects housing architecture. The book "Culture and Architecture" by Nguyen Dinh Thi and Nguyen Tat Thang examined the variables influencing culture and architecture and made evident how the two are related. The writers discussed the impact of material and spiritual cultures on architecture in the section on Vietnamese culture and architecture, with a focus on the traditional architecture that is characteristic of the Vietnamese peoples (Thi et al., 2022). The book "Architectural Culture" by author Hoang Dao Kinh (2012) examined cultural aspects of architecture generally and went into great detail about the origins of culture and how architecture responds to it. The author also studied Vietnamese village architecture and village culture, which are profound and audacious manifestations of the civilization residing in the community of Vietnamese architecture. In the book "Socio-cultural aspects of Architecture," Nguyen Duc Thiem (2008) has focused on research on cultural and social elements found in architectural works, such as residential culture and architectural identity, housing and Vietnamese family structure, sociology, and architecture, and feng-shui in Oriental architecture. According to the author's research, socio-cultural traits have an impact on architecture, and architecture in turn reflects socio-cultural traits in the other way. Dang Thai Hoang et al. (2009) examined the relationship between Vietnamese culture and architecture in his book "Oriental Culture and Architecture". Both the development of Vietnamese culture and architecture were discussed by the writers in chapter 5, Vietnamese culture and architecture. Based on this, the writers examine how Vietnamese culture and architecture interacted with each other from the early Dong Son period (roughly the 7th century BC) to the

early 21st century. After studying some historical Iranian works, Sheida Ettehad et al. (2015) found in their article “Role of Culture in Promoting Architectural Identity” that each community's identity is determined by its culture and that architecture is a social phenomenon that is rooted in culture and its influences. This finding highlights the significance of culture in promoting each nation's architectural identity. According to research by Safa A. M. Al Husban et al. (2021), detached housing design in Jordan is influenced by a variety of general cultural and traditional factors. Cultural beliefs and traditions are strongly reflected in Jordanian values, customs, activities, and the degree of privacy that is required in a home. Because of this, architects should take into account residents' cultural customs, religious beliefs, and privacy requirements of the occupants. In the study "Cultural Context in Architecture," Saurav Koirala (2016) believes that architecture is the expression of culture. Therefore, architecture and culture have an interdependent and inseparable relationship. The physical characteristics of architecture such as shape, size, decoration, construction style... are one of the manifestations of the civilization and culture of each community. In the study on the preservation of George Town's architectural legacy, which is recognized as a World Heritage Site (WHS) by UNESCO, Zinah Sameer Mohammed et al. (2019) found that visitors' perceptions of the heritage space's identity are shaped by both tangible and intangible components that are influenced by cultural values. As a result, preserving architectural language in heritage towns is crucial to maintaining the cultural heritage of those areas. In 2015, M. H. Zare et al. (2015) research on the “Role of Culture on Formation of Vernacular Architecture in Iran,” culture and architecture are the two fine and subtle concepts that express a society's identity. A singular focus on form and technology will result in architectural creations that have the potential to undermine society's cultural identity. In order to uncover the lost aspects of Persian architecture, architects were consequently compelled to take into account the cultural characteristics of Iranian architecture and blend it with native designs. In 2015, Xayaphone Vongvilay et al. (2015) compared the cultural and physical context, settlement patterns and origins, architecture, culture, and local indigenous knowledge relating to the accommodation and settlement of the three main ethnic groups in Laos. From there, it becomes evident that Lao indigenous homes are built in accordance with the beliefs, traditional culture, lifestyle and understanding of the environment, climate, geography, and construction materials of the Lao people. It was noted by S. Valsson (2020) that culture and architecture are two sides of the same coin and architecture will never deviate from culture. The author first defined culture, then demonstrated how culture and the built environment are related through a number of examples, and finally showed how culture is expressed in architecture. In addition, A. Adebayo et al. (2013) argued that in order for architecture to adapt to changing circumstances, it must come naturally and logically from earlier traditions. A community's or region's historical background and cultural features are the only ways to build identity. In 2021, Husain, H. A., and Al-Slik, G. (2021) analyzed the design practice of house facades in Baghdad city in the years 1950s and 1960s, and it has been recognized as the standard for contemporary Iraq architecture. The results show how changes in cultural context can positively impact architectural practice by inspiring designers and leading to the development of innovative models that preserve and enhance architectural values.

The above summary of the research situation reveals that no studies have been conducted on the specific impact of traditional culture on housing architecture, particularly in the case of architectural houses in mountainous ethnic minorities in Northern Vietnam which have strong national cultural identities. Research on the effects of traditional culture on house architecture among mountainous ethnic minorities in Northern Vietnam has been lacking, which has made it easier to make informed decisions about the heritage conservation of traditional housing assets and directions for developing housing architecture that preserve and promote traditional indigenous cultural values.

4.0 TRADITIONAL CULTURAL INFLUENCES ON HOUSING ARCHITECTURE

It is important to define a few terms and concepts before delving into the analysis of how traditional culture has influenced the traditional housing architecture among mountainous ethnic groups in Northern Vietnam. These are as follows:

Living culture is understood to be formed from people's eating, sleeping, resting habits and communication activities between people and between people and the community.

Costume culture is one of the creative endeavors of humans, expressing personal culture and the culture of behavior between people, people and the natural environment and social environment.

Labor and production culture is the creative endeavors of individuals and communities engaged in farming, labor, and production; demonstrating human knowledge and science, the level of production forces and the nature of production relations.

Cultural customs and practices are habits or standards in the daily life of the community and society that are passed down from generation to generation.

According to Vietnam's Law on Belief and Religion, religion is human belief expressed through rituals associated with traditional customs and practices to bring mental peace to individuals and families and community (National Assembly of the Socialist Republic of Vietnam, 2016). Thus, religious culture is a system of human belief in the supernatural, certain sacred images through traditional rituals and festivals of the community or worship rituals.

The goal of this research is to preserve and promote the values of traditional housing architecture in order to help ethnic minorities in the northern mountainous region of Vietnam to maintain their traditional culture values. This can be seen in the influences of traditional culture on the organization of architectural spaces in their homes (Figure 3).

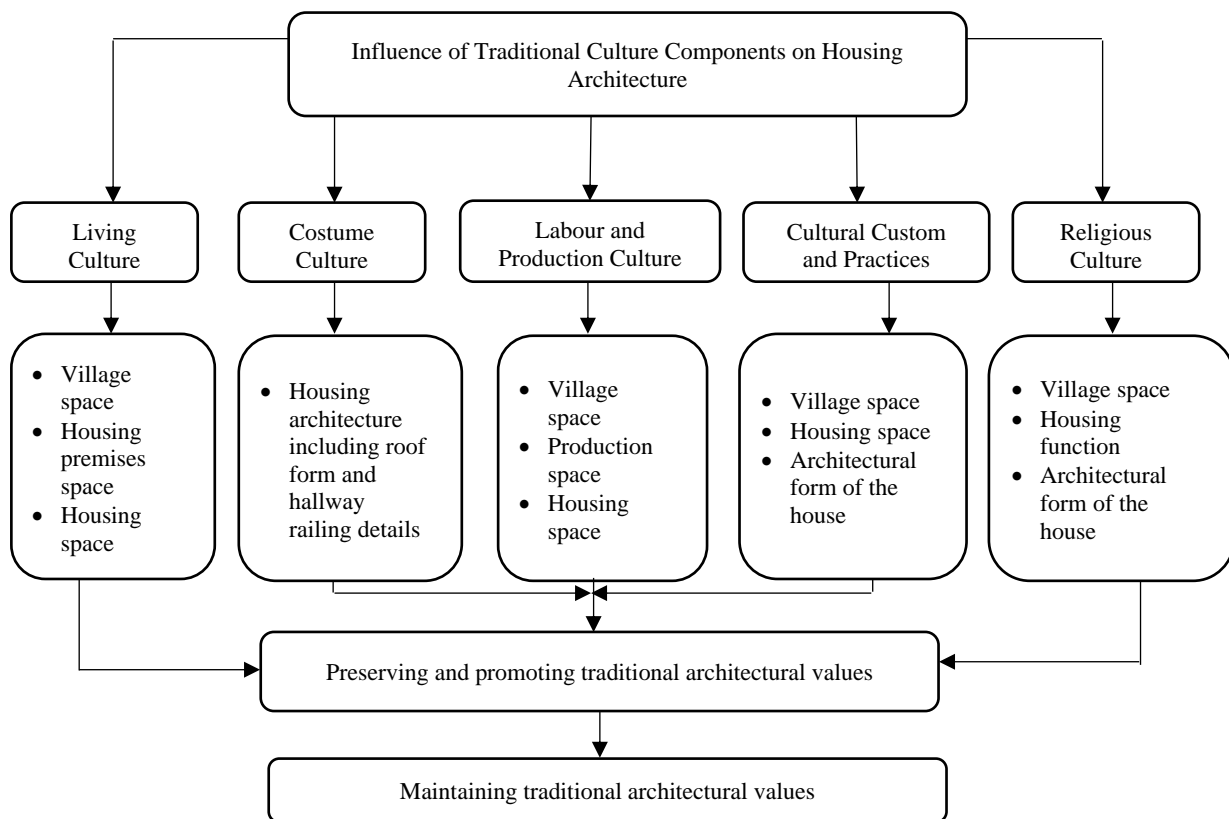


Figure 3. Traditional cultural influences on housing architecture and maintaining cultural values through preserving and promoting traditional architectural values.







4.1. The influence of Living Culture







The natural surroundings and climate of a place as well as the lifestyles and traditional customs shape the culture of living. As a result, creating traditional living spaces is crucial. The way that hamlets, villages, and houses are organized spatially and how they function all reflect the culture of living. In particular, when discussing the organization of the village's spatial structure, the villages comprise the residential spaces where families gather to eat, drink, live, and rest; the community spaces serve as venues for cultural events and

traditional festivals, such as bumper harvest celebration days, new year's ceremonies, and welcoming ceremonies for spring; the wharf spaces (or "mó nước") serve as locations for obtaining water for daily use, including bathing and washing of the people in the village.

The house premises include housing spaces; yards and gardens for tree planting; firewood storage; livestock barns, toilets; and entrance and exit gates. The housing spaces include spaces for guest reception, spaces for ancestor worship (this is where woman are not allowed to use and pass by); fire stoves and dining spaces; the host's sleeping spaces, guests' sleeping spaces, daughters' and sons' sleeping spaces; washing and bathing spaces; spaces for doing crafts such as knitting, embroidery, and weaving. Houses of some ethnic groups such as Thai, Muong people often have the space and main stairs reserved for men and women separately. The main stairs leading up to the reception space and the ancestral worship space is only for the host and guests; the secondary stairs at the other end of the house leading up to the kitchen space, and the water floor is the place for the women in the house. The culture of living and living activities is also reflected in the division of the architectural spaces of the house into three floors, the top floor is the attic space, where rice, and precious family belongings are stored. The attic is also to be reserved as a guest's sleeping space when needed. The middle floor is the living space, and the lowest floor is the stilt floor, where livestock and poultry are raised, and firewood and other agricultural production tools are stored (Table 2).

Table 2. Influence of traditional living culture on the organization of architectural space.
(Source: By Author)

Organization of architectural space		Illustrations	
Village spaces	Places for organizing community activities in the village have formed cultural spaces; entertainment and interaction spaces for villagers.		
		Community cultural house	Entertainment area
Village spaces	The village's water wharf area/ water wheel where the water comes from high mountain peaks or streams that flow into the village has formed around the location of the water supply for eating, drinking, bathing, and washing. It also serves as a hub for cross-cultural community interaction.		
		Wharf areas ("mó nước")	Water wheel- leading water
Housing premises spaces	Housing areas for sleeping, eating, resting, and combining production; a drying yard for agriculture coupled with areas for fruit gardening, embroidery, knitting, barns, and restrooms.		
		Yard spaces	Fruit gardens

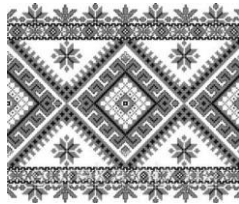



Housing spaces	The living room, worship room, and kitchen are spaces reserved for men.		
		Guest reception area	Worship space
	The kitchen, laundry, sewing, and weaving spaces are spaces reserved for women.		
		Kitchen area	Weaving area
	Living space is arranged in accordance with height, with food storage located on the top floor, dining and sleeping areas located on the upper floor, and farming tools and firewood storage located on the stilt floor.		
		Stilt floor space	Roof space

4.2. The Influence of Costume Culture

Clothes, scarves, and fabrics are some of the material expressions of culture. Through clothing communication, we can gain knowledge about the customs, ethnicity, and culture of others. Clothes not only offer physical protection but also express a desire for aesthetics and beauty, which gradually increases human awareness. It's also clear that traditional housing architecture has an impact on architectural design. Along with the development of people's awareness, each ethnic minority person knows how to make the architectural forms of their houses more and more beautiful and aesthetic through costume culture and vice versa.

The investigation and stylization of decorative pattern details on ethnic minority women's costume products demonstrates the costume culture connected to traditional housing architecture. The decorative motifs shown on the costumes of ethnic minorities such as brocade scarves, skirts, blouses, and bibs have become inspirations in the construction of housing architecture through project external architectural form such as the shape of the pitched roof, the structure of the rooftop, the shape of the railing, the colors, materials, and housing construction materials (Table 3).





Table 3. Influence of traditional costume culture on traditional housing architecture.
(Source: By Author)

Architectural form of housing		Illustrations	
Traditional housing architecture	Embroidered decorative motifs on brocade scarf cloth are incorporated in the architectural form of the roof top of the house.		
		Brocade fabric patterns and the Black Thai ethnic stilt house's "Khou quai" shape	
	Embroidered decorative motifs on brocade fabric are used in the form of house hallway railings.		
	White Thai ethnic stilt houses' railing shapes and brocade fabric patterns		

4.3. Influence of Labor and Production Culture

There are two types of culture in terms of labor and production: shifting cultivation (or sedentary production) and permanent settlement. In the past, some ethnic groups used the shifting cultivation method, that is, using the cultivation production method, planting crops not in a specific place, but after cultivating on the same piece of land for a few crops, then a number of households moved to the next new piece of land, thus their housing is simple, flexible, and easy to be dismantled for being moved to a new place. Later, as burning forests for cultivation was strictly forbidden, people gradually formed a sedentary lifestyle culture. Since sedentary production workers have to rely a lot on nature and climate, many people are needed to participate in production, from which people have to depend on each other and thereby forming crowded villages and residential villages to serve the long-term settlement life of people. The previous labor and production culture has influenced the creation of housing spaces, for example, each house has a separate space for handicrafts such as knitting, embroidery, and brocade weaving, right in the house or on the stilt floor. Inside the house, at the reception space, the owner often hangs hunting tools such as bows, crossbows, flintlocks and the horns of the wild animals they have hunted. The stilt floor is also a place to store agricultural and forestry tools and tools. Today, traditional craft spaces have been moved to combine with community cultural activity spaces outside the village to conduct performance activities to help visitors experience traditional crafts in an effort to promote community tourism. Agricultural tourism activities shown in Table 4 below have also been implemented in farming production spaces to help ensure sustainable livelihoods for the people.

Table 4. Influence of traditional labor and production culture on the organization of housing architectural space.*(Source: By Author)*

Organization of housing architectural space		Illustrations
Village spaces	In order to engage in sedentary and settled production, which is highly dependent on environmental factors, a large number of people must be gathered to participate in the production process and live in mutual dependence, resulting in the creation of crowded villages and hamlets.	 <p>Spatial structure of Giay ethnic village in Ha Giang province</p>
The agricultural, arts, and craft production spaces	Upland fields growing corn, cassava, vegetables, and fruit trees, as well as terraced fields growing wet rice, are examples of the production spaces created by the organization of labor and production culture.	 <p>Terraced fields, where wet rice growing culture</p>
	Craft production space is combined with community tourism service.	 <p>Craft production space</p>
Housing spaces	The interior of the house is decorated with hunting tools such as bows, crossbows, flintlock guns, wild knives and pairs of animal horns that they have hunted during wild animal hunting activities.	 <p>Decorating houses with wild knives and horns made from buffalo horns of the H'mong people in Cat Cat village, Lao Cai province</p>

4.4. The Influence of Culture on Lifestyle, Traditional Customs, and Practices





Regarding the spatial structure of the village, traditional culture, lifestyle, customs, and practices are shaped by the interactions between individuals and the community and with nature as well as through living, working, and producing together, which was formed millions of years ago. Lifestyles, customs, and practices are formed by long-standing communal habits and are gradually recognized by the people as common rules of conduct. For instance, the way the house is oriented, the walkway, the entrance gate, and the garden design all adhere to general rules.

For housing architecture, lifestyle culture, customs and habits affecting the organization of functional spaces in the house, arrangement of reception space, worship space, fireplace spaces, sleeping spaces for the homeowner are clearly defined. In addition, the architectural forms expressed in stilt houses, half-stilt, half -

land houses or land houses all depend on the culture and lifestyle of the ethnic groups. The structure of the truss set, the number of columns, the number of house compartments, the number of columns buried in the ground or placed on the foot of the foundation are also different; wall materials which is clad with wooden planks, or earth walls or stone walls also vary among each ethnic group; 4-roof or 2-roof roof, rectangular roof shape or curved shape at the two gables; the number of stairs, the position of the ladder, the number of steps, the number of doors and windows are all formed by the lifestyle culture, customs and habits of each ethnic group. These details are listed in Table 5 below.

Table 5. Influence of lifestyle culture, traditional customs, and practices on the organization of traditional housing architecture.

(Source: By Author)

Organization of residential architectural space		Illustrations
Village spaces	The fact that every stilt house in Tay village faces the low valley and has its back to a mountain or hillside is influenced by lifestyle, culture, and customs.	
		Spatial structure of the Tay village in Tuyen Quang province
Form of traditional housing architecture	Lifestyle culture, customs and practices are influenced through the form of stilt houses, half stilts and half land houses.	
		Stilt houses of the White Thai people in Lai Chau province
		
	Half-stilt, half-land house form of the Dao people in Bac Kan province	
	Culture, lifestyle, customs and practices are influenced through the form of land houses.	
		Land house forms of the Nung people in Lang Son province

4.5. The Influence of Religious Culture




Belief in the northern mountainous ethnic group is understood as a people's belief system in the supernatural, a certain sacred image through rituals, community traditional festivals or rites of worshipping the ancestor who has made great contributions in establishing his nation as well as worshipping his ancestors,



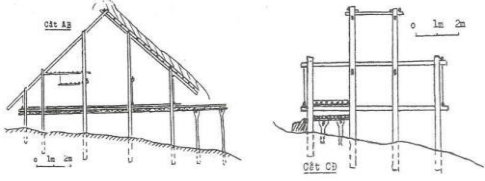
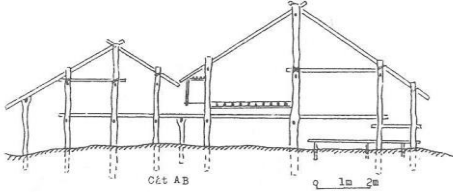

grandparents, and parents. In other words, people's beliefs in the northern mountainous ethnic group expressed through rituals associated with traditional customs and practices in order to bring spiritual peace to individuals and communities. Their beliefs are folklore, associated with local folklore activities; beliefs formed without a doctrinal system; with scattered rituals that are organized simply without strict regulations, depending on the practical situation at a specific time of that community. The influence of religious culture on the spatial structures of villages and hamlets can be seen through the arrangement of spaces for traditional festivals. The festival spaces are usually arranged in the high and wide ground in the middle of the village or right in the rice fields after the harvest is completed. Religious culture is also expressed by the Thai people in the village space, which are the tents to worship the parents and ancestors of the daughters-in-law, who are not worshiped in the house. All these tents are set up together along the ways to the stream or in the house premises for people to show their respect and beliefs towards their ancestors, grandparents, and parents.

The way ancestral worship spaces are arranged affects how cultural beliefs are reflected in living spaces. The only area of the house designated for worship is the formal area next to the reception area, which is off-limits to women.

Cultural beliefs form the shape of residential roofs. Table 6 illustrates how this is seen in the male and female buffalo houses of the San Chay people and the tortoise shell roofs of the Black Thai people.

Table 6. Influence of traditional religious beliefs on the organization of traditional housing architecture. (Source: By Author)

Organization of traditional housing architecture		Illustrations
Village spaces	Place to organize traditional festivals such as worshipping heaven and earth, rain and wind, worshipping water, celebrating the new rice crop cultivation, and celebrating traditional New Year's holidays.	
		Celebration space
	The White Thai village has created cultural and religious spaces, including a cemetery adjacent to the village where the dead are buried and a place of worship for the daughter-in-law's parents.	
		Worship ritual for Ban Vuong, the Dao people's master
		
		Spaces for burial of the deceased

		
<p>Housing space</p>	<p>Ancestor worship space in the house reserved for men's area is shaped by cultural beliefs.</p>	
<p>Forms of traditional housing architecture</p>	<p>The structural design of the San Chay people's house trusses, known as the male and female buffalo houses (the buffalo is the mascot of the San Chay people), shapes their cultural beliefs. These include: The male buffalo house is an outhouse with three columns, and the female buffalo house is the main house with a truss supporting four columns. Two child columns are located on either side of the main column, which supports the top of the rafter. But if you want to enlarge the house, you can add one or two more columns to make a 4- or 5-column truss.</p>	
	<p>The Black Thai people's turtle shell-shaped roof, which was inspired by their turtle mascot, serves as a vehicle for expressing their cultural beliefs. Four columns, representing stability, strength, and well-being.</p>	
		
		<p>The shape of the roof resembles a turtle shell</p>

5.0 DISCUSSION

Discussing the research results, the study has identified the influence of five cultural groups on the layout of traditional housing architecture of ethnic minorities in the Northern mountainous region, specifically: 1) For the influence of living and living culture on traditional housing architecture, which has demonstrated the effects

on the village's and hamlet's spatial structure organization, as well as the house's campus and interior spaces. This identification helps orient the government and people in the management and development of village and housing architectural spaces that promote traditional cultural values; 2) Regarding the influence of costume culture on the form of housing architecture, it has shown that the relationship between the use of decorative motifs in stylized brocade fabric and decoration for form is shown on roof top, corridor railing form, wall bamboo panel form. On the contrary, the form of architectural decoration of houses is also stylized in the decorative patterns of brocade fabric sewn into costumes to enhance the beauty of ethnic minority women in the northern mountainous regions. When building a home, this identification suggests to people that they can decorate the home with motifs from their ethnic traditional costume culture in order to preserve traditional national culture; 3) Regarding the influence of labor and production culture on the village's structural space and functional space of the house, this identification is useful for structuring the village's physical layout. The village people should focus on allocating areas for farming and production, and when constructing new homes, they should be mindful of how to set up spaces for handicrafts activities like knitting, weaving, carpentry, blacksmithing, and so on, as these jobs create livelihoods for people. 4) Regarding the influence of lifestyle culture, customs and practices on housing, it is imperative to standardize the village's housing orientation layout, home space organization techniques, and methods for establishing space and structure. The house's design adheres to each ethnicity's customs. Thus, in order to maintain space, maintain the forms of traditional housing architecture, and ensure the distinctive cultural elements of each ethnic minority, consideration must be given to this influence relationship when building or renovating new housing. 5) Regarding the influence of religious culture on village spaces, it helps to research and preserve religious spaces for worshipping gods and saints; the nation's festival spaces are traditional cultural hubs that determine the value of indigenous culture. Houses are places where people worship their parents, grandparents, and ancestors. The religious space has educational properties for children and grandchildren, which contributes to the preservation of traditional family culture.

In the process of urbanization and modernization, the research findings will provide guidance to local authorities regarding heritage conservation, management, and the development of housing architecture for ethnic minorities in the northern mountainous region, modernizing and building new rural areas communities while maintaining the values of traditional indigenous cultural identity and family development needs.

The research results will also be useful for cultural managers as well as researchers studying indigenous cultures of ethnic minorities in the northern mountainous region.

6.0 CONCLUSION

Following a field survey and evaluation, the research team discovered that ethnic minorities in the Northern mountainous region are gradually losing their traditional indigenous cultural values as a result of building new houses that mimic the architectural styles of homes belonging to different ethnic groups, with a particular emphasis on understanding and copying the plains homes of the Kinh people. In order to assist the government, policy managers, and the general public in having a deeper understanding of the connection between culture and their traditional housing architecture, and the importance of maintaining the local cultural identity when creating new housing, it is necessary to conduct original research for an article that identifies and analyzes the impact of indigenous culture on traditional housing architecture.

An overview of the research situation also reveals the lack of studies on the relationship between traditional housing architecture and culture from this perspective, particularly studies that are specifically focused on Vietnam's northern mountainous regions.

On a practical basis, through field surveys, visual observations and research of relevant documents, the research team has identified 05 groups of cultural influences on traditional housing architecture, including: 1) Influence of living and living culture; 2) The influence of costume culture; 3) Influence of labor and production culture; 4) Influence of lifestyle culture, local customs and practices; 5) Influence of religious culture.

Practice demonstrates that traditional culture is the culmination of material and spiritual values in the work, production, daily activities, communication, and interaction of individuals with their natural surroundings. Therefore, when building and developing housing, we need to research traditional culture, which means we

need to pay attention to the natural living environment, climate environment, and social environment to ensure living space to adapt to the surrounding natural environment, or in other words, adapt to the local culture.

As was mentioned in the discussion, the findings of this study serve merely as a foundation for local authorities' decisions regarding heritage preservation, management, and the development of housing for ethnic minorities living in the northern mountainous region of Vietnam. Additional research is required to find solutions for managing, preserving, and promoting traditional housing architectural values in order to put research findings into practice and help preserve ethnic minorities' traditional cultural values in the Northern mountainous region of Vietnam.

Compliance with ethical standards

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