

THE TRADITION HOUSE OF MUONG PEOPLE **HOABINH PROVINCE – VIETNAM.**

By : Archt Pham Hoang Phuong

Institute of Architectural Research – Ministry of Construction

Vietnam

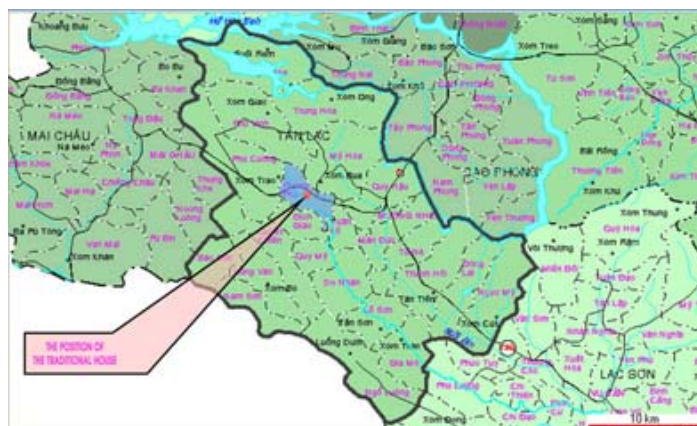
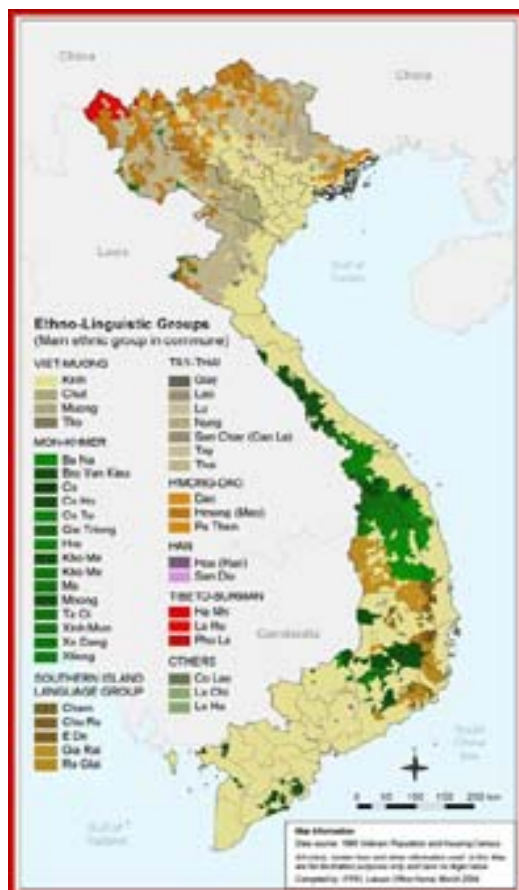


INTRODUCTION.

1. Location and geological characteristic of Hoa Binh Province

a. Location:

HoaBinh province is located in the North-Western of Hanoi Capital, about 80 km. Far about 35 km from the town of HoaBinh province is the Tan Lac district, where is considered as the living zone of the Muong ethnic. Within the HoaBinh province, Tanlac district also have another name : MuongBi, which was one of the four biggest groups of the Muong ethnic in the past. The Muong people still have a folk verse that: “biggest is Bi, secondly is Vang, thirdly Thang and fourthly Dong” (P.Gossin 1939 – Muong People at Hoa Binh) to sing the praise of the important location of Muong Bi in comparison with 3 others. Muong Bi is located in the area



where the land very fertility and populous, at the midland of the mountainous area, where the land transferred between the plains and high rocky mountain of Hoang Lien Son range.

MuongBi belongs to Tan Lac district, HoaBinh province, on the Highway No.6, the most important highway for the goods transportation from the plain to the provinces of the TayBac (North-Western) mountainous area. Recently, due to the requirements of the

Government in economic development, this highway has been renovated and upgrading. So now it is quite easy to visit the mountainous provinces from Hanoi, such as: DienBien, LaiChau... etc. In general the Northwestern mountainous areas are now remarkable improvement in road and transportation. Everyday a stream of cars and trucks to carry on the lineage all kind of goods to the mountainous provinces, thus the villages and communes of these provinces also become more and more animated.

b. Topography features:

Hoa binh province is divided into 2 separately parts due to the bank of Da river. The Da river (or Bo river) rises from the Yun –nan (Chinese) through the Hoa Binh province with the long about 80 km, the riverbanks are large with big alluvium area.

The uneven and flat terrain at Hoa Binh, mainly are midland where transferring between the hill land and the rock. The ranges of lime stone mountains and hills covered the small valleys. The small valleys and the land surrounding the foot of mountain are normally fertility, as there are many water sources concentrating and the land also more even and flat that more easy for people in agriculture cultivation. However, the valley also slopping thus the velocity water running in

the flood season are really very strong, sometimes it is happened and became the luquet, seriously damage the people's properties.

2.Characters of people of Muong at Hoa Binh province

Refer to many science research and studies, it is concluded that the Vietnamese and the Muong people have the same social origin. Studying on the ethnography, the Vietnamese and Muong have the same ethnography characters which belongs to the South-East group of people, Southern Mongoloid. This ethnography characters are quite acquaintance to the Dong Son Primitive Culture. Many studies concerning the ethnography showed that the ancestor of Vietnamese and Muong was Lac Viet people - the owner of Dong Son Primitive Culture or the Red river civilization. According to the history, at the time of Hung Dynasty (the Bronze Age) Vietnamese and Muong were one source. Later on, due to some reasons and history conditions that appeared the difference the classes that divided the Lac Viet people into 2 groups of people. The differentiate process happened in a long time, slowly and not sameness and mainly happened in the Chinese Domination (the period of domination by the Northern invaders). Since 10th Century, Vietnamese and Muong became separately two ethnic group of people, but still they exchange their culture and economic knowledge.

a/ Social Community of Muong people:

Being a social of patriarchy characteristic, means that the father in family plays very important role in the traditional society of Muong people and be splinted into 2 ranks. The first rank is the upper stage or the ruling class, called as Lang. He is beloved by all people at Muong. This class having many prerogatives and managing a lot of land and fields. Other classes have to obey this class. However, within the upper class "the Lang" also reflect the different position of each individual. This was not the consequence of a long time of economic development process or social development. It's because of the conception of bloody sources. The social position of each individual belongs to position of his/her parents and would be handed-over from generation to generations. If he is a son of the Lang, he would have higher position, to be bestowed more prerogatives than the other person in the lower class.

The lower class of society of Muong was the ordinary people. They were called as "Mol". Same as the upper class, the differentiation in the "Mol" - lower class was also happened very clearly. There were many different small levels of people. Each small level have its own position in the society, especially the right of using land is one of the isolation between levels that was impossible to break the rule. In the lower class divided a first class of people whose were called AU ENG.

They were the maid or servants in the Lang's houses, helping the Lang to manage the work inside Muong. They also have some prerogatives, like to be allowed to cultivate in the fertility land field (grade I).

The second level or middle level including the ordinary people. They were called "Mol Muong" (people living in Muong) in order to classify with the AU ENG, belongs to the higher level. These Mol Muong also have some prerogatives, not as much as the first level, but at least they were right to possessive a land field to earn their living.

The lowest level in the traditional society of Muong was people with lowest position in the society. They were the person without any prosperity and land for living. They had to earn their living by working for other, like to clear the site for cultivation.... People in society normally look down upon them. Their houses must be constructed near the side of mountains, cover the valleys. Because they did not have the right to cultivate the water rice, thus they were not allowed to attend the agriculture festival at the village. After the August Revolution, those injustice in the society have been resolved, the lowest position people of Muong nowadays also have a life the same as the other classes. They now have their own land for cultivation. The people in the upper class do not have as much prerogatives as before, but they are still the respective people in Muong.

b. Economical forms of the Muong people:

The agriculture productive was only cultivating wet rice or upland rice. Muong people had a technical for rice cultivation very long time ago. In the history song of Muong, named "De Dat - De Nuoc" (history on the born of land and born of water) mentioned the technical for cultivation wet rice. In order to cultivate the wet rice, the Muong people knew to do with irrigation, such as digging channel, canal or small water catchments... especially they knew to make the water reel bring water to the high level rice fields. Beside, they also make the water trough systems by the bamboo trees connected to each other, like a pipeline bringing water from the water sources to the rice field. (See the picture).



Together with cultivating wet rice, Muong people also cultivate the upland rice on the sides of hill/mountains. Often on April (Luna calendar) people come to clear the hill land which is chosen for burning off for cultivation, about 10 days later they burn off the grass and bushes. Day for burning the land often be chosen on even date only. Then every family brings the seed and scatter a seed to a hole drills a stick. About one month after the scatter days, people come to weed. When the rice is ripened on the tree they come and gather the rice. Besides cultivating rice in the mountain fields, at the months lacking of water, Muong people plant manioc, maize or cotton for purpose of weave fabric for whole family members.

The Muong people also know how to breeding the livestock as food for family. However, ways of breeding the livestock mainly was leave unbridled. The main cattle to be breed by Muong people often buffalo, ox, pig, chicken and also fish in the pond next to house. Buffalo normally play an important role in the family in comparison to the other cattle, as it can pull a plough for agriculture production. That is why, one family to be considered a rich one if they have more buffalo. Even if the daughter gets married she also brings one buffalo to the husband's house as the dowry.

The Muong people live by self-sufficient economic way. Means that in every family have to fabric the furniture for their use. Men in the family often know how to knit usual things for family usage such as bamboo baskets...

Especially, every Muong family have at least one loom, and the women in the family have to responsible for weaving fabric using for whole members of family, such as the cloth for clothes, blanket, pillow....ect. Women only weave fabric on free time or in the evening after the work at field or agriculture leisured. Beside the above mentored ways of earning their living, the Muong people are closely related to the nature. Men often go for hunting in the forest, or picking fruit and vegetable or catching fish at lake and streams for daily food in the family.



In the past, Muong people often follow ways of autotrophic economic, there were no commercial or exchange anything to each other in the village. Nowadays, when the economical system has been opened, Muong people know to extent the

commercial relations with other provinces; escape themselves from the autotrophic economic way.

3.Existing conditions on the social and natural environment:

a. Existing conditions on the natural environment:

Muong is always considered a region of populous and rich, the nature somehow has been preferential for this region on the climate characters as hot, humidity and more rain, favorable for agriculture cultivation. The fauna and vegetation are plentiful supplement for the food of people everyday, and also an abundant source of construction material for people in constructing their houses. In the past, Muong people were closely connected to the nature, laying on the nature and felt in line with nature. However, since 40 years till now, due to the demographic explosion in this region, a numerous of population has been increased only in short time thus remarkable increasing on food demand, place for living.... to make up a big pressure on the surrounding natural environment.

Because of increasing the demand of cultivation land, not only for the rice but also for industrial planting trees, area of natural forest are decreased more and more. The habit of burning off forest for cultivation land of the Muong People have damaged a large



amount of forest areas, as well as many kinds of animal and vegetation, losing the natural balance of the province.

The exploitation exceed specified limit on forest products for producing construction material, food and daily usage ... make the natural forest area more and more decreasing, exhausted and deteriorated. The upland on the side of hills are not covered by the forest that became exhausted soil. According to the statistic of the Ethnic and Nationality Committee, during 1996 to 2000 the area of exhausted soils at Hoa binh province is increasing 57% in comparison to the previous years. Moreover, due to the side of hills which is surrounding the valleys are not covered by the forest trees, thus the rainy water flock from the high level into the lower level with great velocity forming the foods, seriously affected to the properties and life of people who lives in the valleys area. At the villages, due to the matter of remarkable increasing of wastes that have broken the balance of nature, bringing about polluted environment situation. Serious consequences of the matter of polluted environment is more and more people in this area got the breathing disease and the skin disease. Living conditions at Muong villages are seriously decreased.

b. Existing conditions of social environment:

Recently years, there are many changes in social life of Muong people. It is easy to find out that in the previous years, the special cultural life of Muong was often influenced by the neighboring cultural life, such as the Vietnamese, the Thai..., however, due to a long time of living separately from other communities, following the autotrophic economic way, no commercial, no exchange goods and culture to the modern trench. So the there is not any of modern cultural trench influenced to the Muong culture. When Vietnam economic system has changing vigorously into the economic development system, the traditional culture of Muong has step by step changing. Since now being affected by the Vietnamese culture and the foreign culture, Muong people step by step forget their own traditional cultural life. Clothes and dress of Muong also changed. On the day life they are wearing the Vietnamese cestrum, their traditional clothes only wearied on the festival. The order in a Muong family also changed quickly. Impossible to negate a truth that the modern life has bringing many positive conditions for Muong people, but also many negative matters that affected to the Muong's life. Typical of that is the losing of traditional cultural values that very special of Muong people. Thus, remaining, restoring and bringing into full play of traditional cultural values of Muong always one of the great requirements of the daily life.

4. Conclusions

The Muong at Hoa binh province is one of the ethnic of Vietnam who have a long time of establish, development, attached to the process of fighting for the

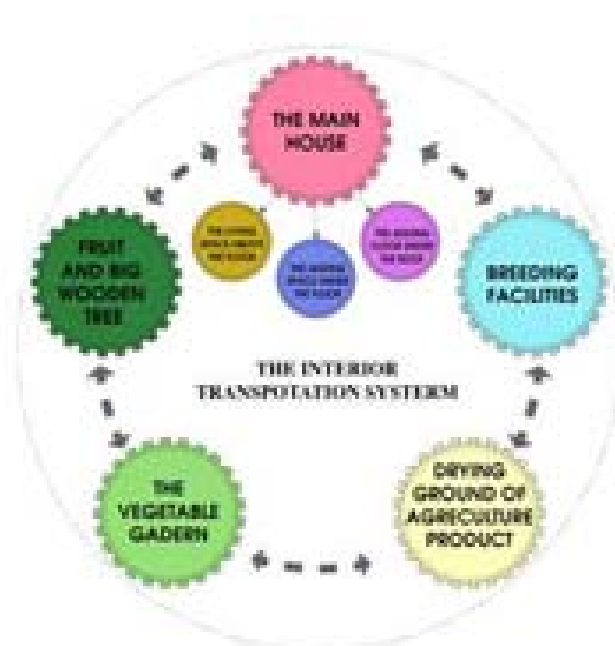
defense of Vietnam country, as well as during the construction periods. With the typical condition of geography, climate, human being, nature the Muong ethnic has made a traditional culture with multipleform and remarkable value. Confront with the negative affected impacts, the traditional values as well as the natural environment have copped with a great challenge. To be or not to be is one of the questions for every traditional culture when the trench of globalization process is happened everywhere, when the marking economic system are developing and covering all the country. Remaining the typical traditional culture of Muong is one of the urgently responsible for today and in the future.

Typical values of the traditional HOUSE OF Muong PEOPLE

Tanlac district – Hoabinh province – VIETNAM.

1. Features of house precinct:

Because of living in the autotrophic ways, so Muong people have to arrange their house as a self-contained area. In the village, precinct of each Muong family often divided clearly by fences, good for safe guard as well as for preventing the wild animals. Normally, the precinct surrounding each family covered by reliable fences made by bamboo trees. The bamboo trees about 3-4 m long, one head of tree is fixed in the ground, other head is sharpen direct to the sky. There are also the firm entrances for the precinct that can be opened and closed when needed with latch in side.



Within the precinct, at the center position where considered the best land is “ The house on stilts”, turning its back on the mountain. ” The house on stilts ” is center place for all activities of family. In front of the house, there often available one area for drying ground made by the soil or brick. This ground is for drying all agriculture products that the family produced, as to keep them more long time. Surrounding the house, next to the fences, Muong people often plant many kinds of perennial tree and fruit tree, such as: banana, grape-fruit.... especially areca tree. In

the small area in side the precinct are the vegetable garden providing many kinds of fresh vegetable to the family. Especially, every family has one Trellis " giun trCũ kh«ng" in the precinct. Like the Vietnamese women, Muong women also like to eat trellis similar like men addict tobacco.

Like the spirit conception of Vietnamese people, Muong people also worship for God of the soil. They believe that if they are wholehearted to worship, the God of soil would give happiness and prosperous. Thus, next to the entrance gate, at the good position, there often have one altar of God of the soil. The altar is made of bamboo trees , quite special and easy to recognize at anywhere.

Muong people do not have habit of digging well for taking water. Mainly water supply for dosmestic use is from the rainy water and streams. Within the precinct of each family, at the back side of house, often have one tank for containing rainy water. In the past, the tank was made of terra-cotta. Nowadays change to concrete material.

2 Features of architecture of the main house:



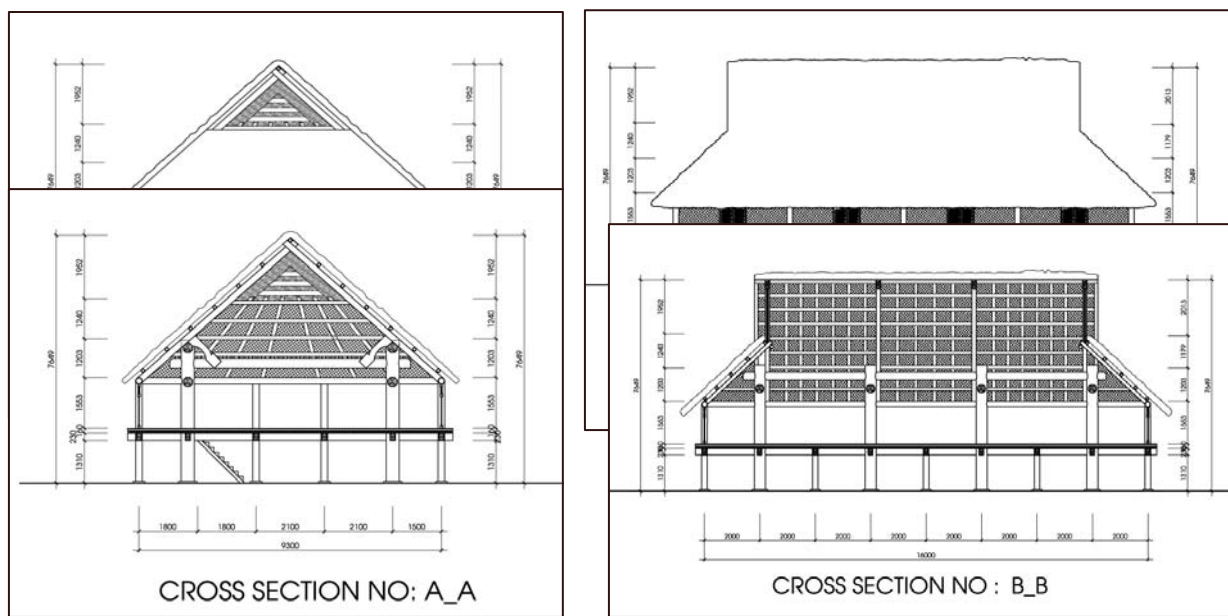
a. The house in the history of the Muong people:

It is known already that Muong ethnic is one of a part of the ancient Vietnamese. The Muong only separated from the Vietnamese to become an ethnic minority about 10 centuries ago. But looking at the traditional houses of Muong people, there are very seldom to find the similar character between the traditional house of the Vietnamese and Muong people. Explaining for this idea, is due to the different in living conditions and the customs. In the past, Muong people mainly lived in the " The house on stilts " which was constructed and handed-over from their ancestor. In the history song "De Dat De Nuoc", one of the ancient history of Muong people mentioned a few words on the legend of creating this traditional house of Muong people. It was told that, in the past when the human being did not know how to construct their house for living. Cave or bushes were the place for them to live. Once there was a hunter who got a God of tortoise. When he intended to kill the tortoise, it suddenly to beg for leaving and promised that if he set free it, the God would teach him how to build a house. The hunter then free the God of tortoise, and followed his advice to build the "The house on stilts "as nowadays. The God of tortoise advised that:

- “ Take the house’s shape like tortoise shells.
- “ Four of my legs would be for main columns.
- “ both sides of my chest would be two roofs
- “ The spine make don noc, keo cai
- “ The rip make rafters
- “ The head make an entrance steps to the door.”

Then Muong people had taken the model and built more and more "The house on stilts". Since then Muong had, house with 9 spans" and their living more stable afterward.

a. Features of house in vertical:



high, about 5m – 6m with the width and length so long so the shape of house is rather low and short. Depend on the numbers of family members in family, the house would be divided into cells. Every four main columns made a cell. The main column to be fixed in the center of house. Number of main columns to be increased in accordance to the length of house, and the house then more and more mighty and firmly. On the house vertical section, the traditional house of Muong can be divided into two parts:

- The upper space :

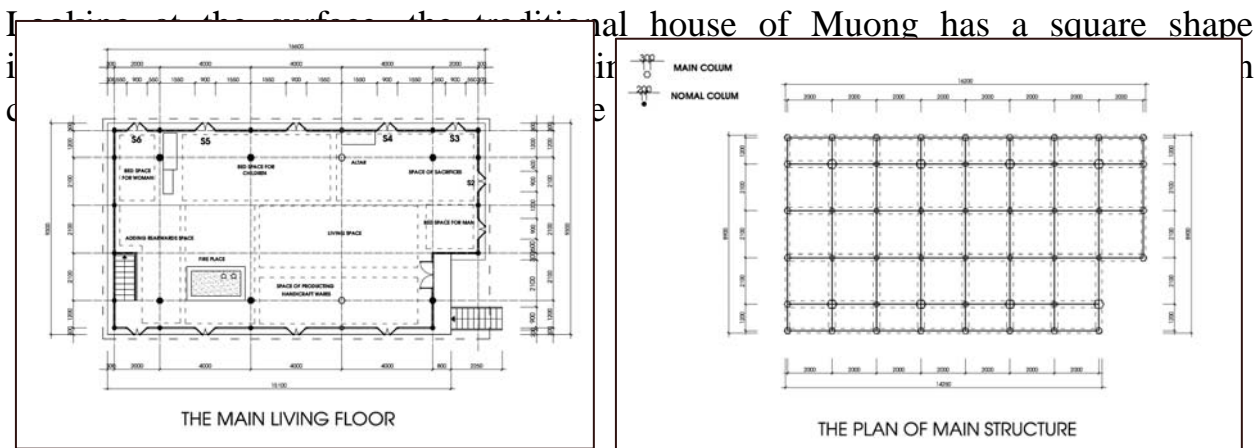
This is the most important space of the house. All activities of a family to be concentrated here. For this upper space, cells to be divided depends on the usage purposes for example: bed room, living room, worship, kitchen...

Walls made by bamboo wattles are covered all the upper space. There is one window at center of the wall of all cells. House of Muong people often have many windows. Normally windows are located near the floor supporting for ventilation in house, and people living in house become more and more closely to the nature surrounding. The height of the upper part take about 2/3 the height of the house, in which the roof's height rather high.

- The lower space :

This is the space under the floor of house. Taking the character of traditional house that floor surface is about 1.8 – 2.0m higher than the soil level, Muong people use this space as a sub-area for family depend on the number of person living the house as well as demand of each household. This space also be divided into cells depend on usage purpose, such as for breeding cattle or storage of food and cereal. Muong people often use some cells for breeding cattle like buffalo, pig, chicken... and they also storing construction material for repairing house when needed, such as: wooden, palm leaf... even the tools are storing there. However, there was no management way of waste so the hygienically condition is not good. Still available many matters concerning the environment to be solved here.

b. Layer of the house:



mark, deciding the living space inside the house as bellow:

- Vong manh is the space out side for receiving guest as an living room.
- Voong tooch: worship altar of ancestor
- Voong khua: main cell,
- Voong pep : kitchen
- Voong Puong: room for daughter and daughter-in-law.
- Voong che: the last cell with door open to the back side steps.

* Entrance of the main door:

This is the main entrance to the house. Steps are next to the entrance and the large garden of house. The main steps can be designed a long or quadrature to the vertical side of house, depend on the scale of each house. If the house is long, the steps shall be arranged on the width of house so it have a big enough entrance for the house. Main steps are often made of good woods, one side is chocked on the floor, other side of steps is chocked on a big flat stone. The flat stone prevent the steps contact directly to the soil with humidity.

On part of the steps is next to the inside space of the house, being separated to the part inside of house by partitions made of bamboo, with wooden door. This space normal is opened without handrail, in order to take the sunlight for the house.

The entrance door is made of wood, connected to the frame also made of wood, so it is firmly. On the frame, the Muong people consider the role of doorsill. Frame often be made of good wood, thicker than other parts, about 20 – 30 cm high. In the conception of Muong people this is the living place of the God of House. This God is staying there to check and control all go in and out activities of human, as well as preventing gosh and devil come to house.

*Living room:

This space is used for men activities (voong mach) and receiving guests. This is also the important part of the house of Muong people, it often covered about 2 first cells of the house. As the Muong people are living in ways of patriarchy, so only men and other important persons can sleep in these cells because they consider this part is the spirit of house, most convenient part of house. All the receptions and worship ceremonies are placing here.

In this part, every location has its own function to be rules very strictly, such as the space near the door is for young men. Space inside the house is for the adults, and next to the window is for old men. Muong people seriously consider the head of

house, because it is the part for worship their ancestor. The window at the head of house is considered as the entrance to receive the God of land, ancestors and other Gods to the house. The same cases when receiving guests, only the old men or the important person to sit there.

This part anyhow also serving for the family's supplementary work, here is the weaving fabric as products for clothes of all family members. Weaving fabric is traditional of Muong women. With their skillful hands, Muong people have made many beautiful pictures by cloth for life.

* The worship partition:

Muong people have their own ways of religious beliefs. The worship for the God of Land, God of river, Mountain and other Gods. The worship alter is located on the yard. This alter is very simple, only a small table made by wood choked next to the wall in the middle of front door, on that alter there is one incense burner. On the wall of alter they stick many kind of charms which drive away evils and praying happiness and healthy for family. This place also for the funeral processions and offerings of family member when pass away. However, the whole offering can not taken place here, often out site, or on the yards.

* The kitchen:

Muong people consider the important roles of the kitchen. It is not only the place for cooking food everyday for family, but also a the heater during the cold day on winter. Kitchen is place to meet everybody in the dinner after a hardworking day. Kitchen also the place where people telling stories for all family members.... It closely related all members in family. Kitchen often located in the middle of the house, surrounding is a large area for people sitting. Differ from the Vietnamese; kitchen of Muong people is placed on the main cell of the house, next to the out space.

Cooking-fire/stove is set directly on the floor. It has square shape, made by mixing of clay and sand, surrounding is set by bricks. Main material for fire is wood cutting from the forest. Thus, to serve 3 meals a day and other demand of heating in winter for each family need a big amount of wood. They have to store a remarkable amount of wood in the lower space; it also makes up a sub-space for them storing food, cereal and others.

Under the roof inside the house, above the cooking-fire there is often a cooking shelf, like the kitchen cupboard of the Vietnamese. It is made of bamboo and connected by rattan to be a square frame. This shelf is for keeping all cooking tools, species and cooked food during a day. Smoke can be ventilated inside the house and air without any ventilation system. Soot are flying and stick to the wall and surrounding areas. Like the Vietnamese, Muong people also worship for the God of Kitchen on the festival of harvest crop where the kitchen is decorated

carefully by colorful papers, flower and agriculture products they have collected from the field in order to worship the Gods, praying for a happy life for family.

* Partition of women:

Due to Muong people are living under the way of patriarchy, and affected extremely from the Feudalism, so the Muong women are not considered exactly as their roles in family, even they are not less importance than the men. The space for women is often on the end of the house, next to the rear door/steps. Normally this space is so small, can be partition to the other spaces outside by the bamboo wattles. This space also be used a bedroom of women because in the Feudalism women were not allowed to involve in any decisions for important work in her family. When receiving guest, if husband does not agree, she can not even talking and eating together. They offer use the sub-door/rear steps to enter their space, not allow to appear at the main cells. This space is very important for Muong women.

* The last partition:

This is the supplement space of the house. It often very small and used as warehouse storing the goods and drinking water. This part also have door to the back of the house, garden and stream.

c. *Features of decoration inside of the house:*

Like the other nations, the house of Muong people is also be decorated well in accordance to their cultural customs and very special. Decorations inside of the house of Muong people are quite natural, reflecting the simple beauty of their life. They decorate their house not by the order or beauty of furniture, but by all the tools of their daily use. These tools are used for cultivation at field everyday, the cooking appliance... but in the night when they are in their place and under the reflex of cooking-fire and smoke and material of the kitchen, as well as the laughing of happy family that create a beautiful space with very special decoration, romantic but very convenient.

We can see the fishing net normally hang on the entrance door. The knife for cutting tree is hanging on the column in the middle of house. The cross-bow is for animal hunting is hanging on the wall. The “gui” is next to the cooking-fire. All are making a type of decoration like the installation style which are booming at present.

The beauty of house also comes from its structure beauty, of the bamboo wattles connected by rattans to combine music fully of echo of the mountainous region.

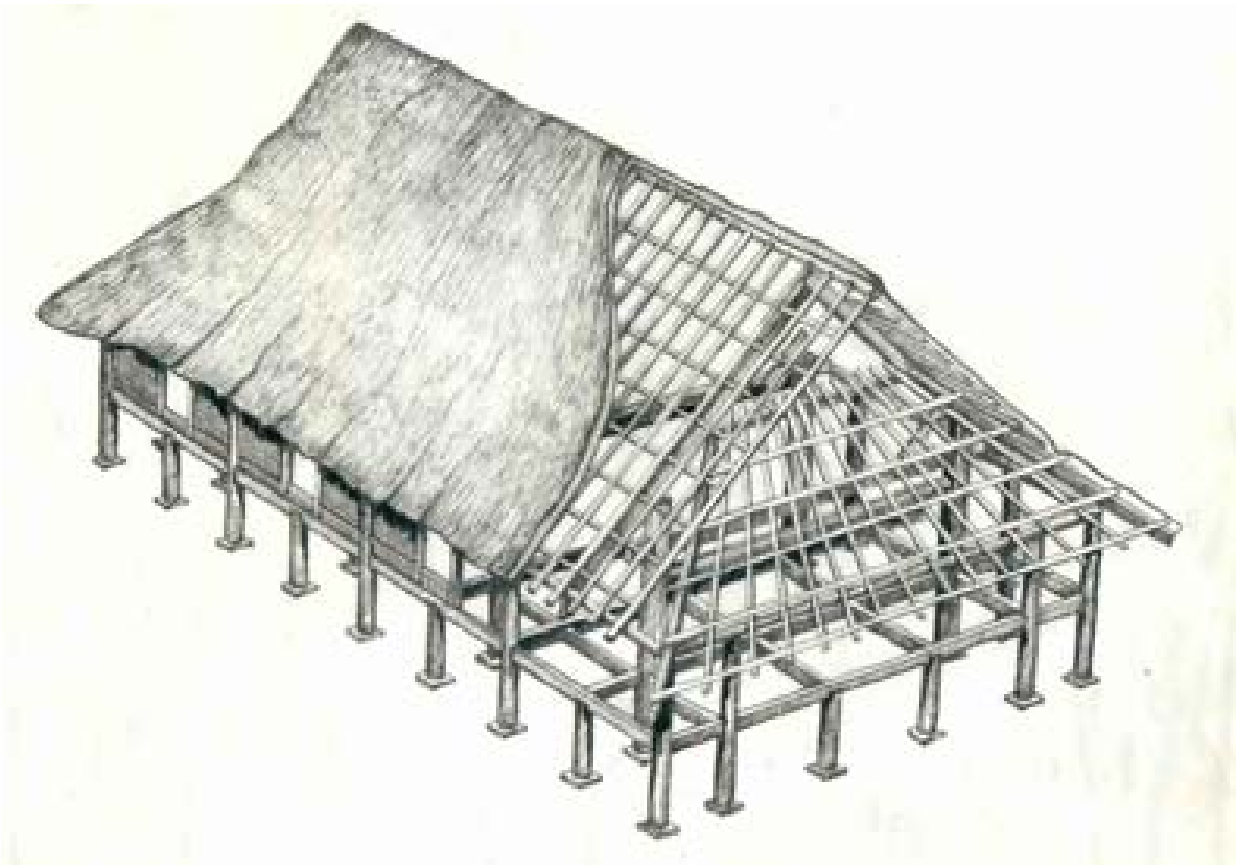
Muong people do not have the habit of painting and collecting paintings, but thanks to the skillful hands of women that they weaved many beautiful paintings that are better than other decoration materials in the house, a special decoration of the nation in the North West region.

3. Features on the house structure of Muong people.

Structure of the house of Muong is similar to the structure of the house of Thai people, unless many other different characters.

3.1. Main structure of frame:

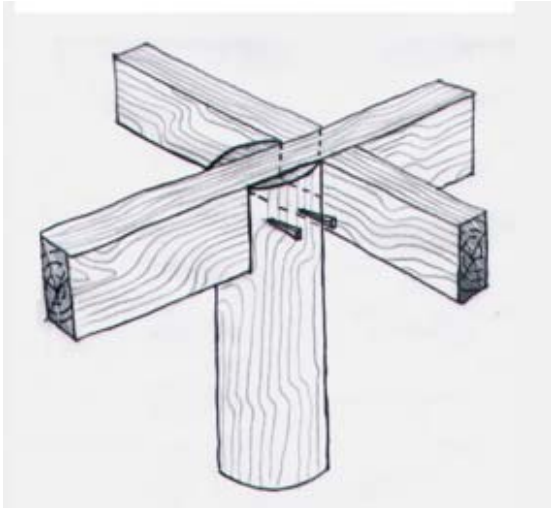
a. Frame of the house:



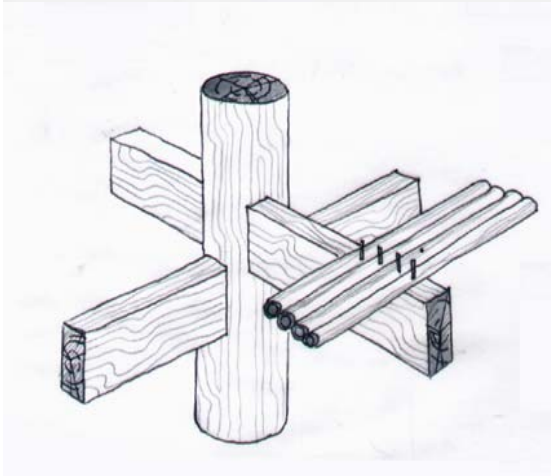
Frame of the house made by natural wood. The main columns have a diameter of about 300–350 mm. The posts are directly buried into the soil or carved stones. Decoration inside the house is similar to the Vietnamese house in the plain. Ways of using carved stones keep the columns longer. The main columns stand straight from the soil surface through the upper floor to hold up the roof's structure.

Beside the main columns, there are some more about 2–4 rows of small columns supporting the extension of the width of the house. The diameter of the small columns is about

15 – 25mm and only reaches to the floor of upper part (about 1.7 – 1.8m). These small columns also be buried into the soil or on carved stones. The upper head of small columns directly connected to the frame structure of the house. The frame structure of the house comprises of: the beam made by the natural wood, with section 250 x 300mm, “khop mong” conjuncted to the main columns and the small columns, supporting for a firmly and stable frame. The frame of house also used for holding up a system of tie rod made by the bamboo. The floor is made of bamboo wattle.



The main columns when reaching to the roof to be used as beam made by natural wood with rather big section (30 x 35 cm). These beams fixed the frame of the upper part more and more firmly and stable. This is also the frame for storing dry woods as a sub-layer next to the roof for storing food and dry woods of family. For the corridor, it is used



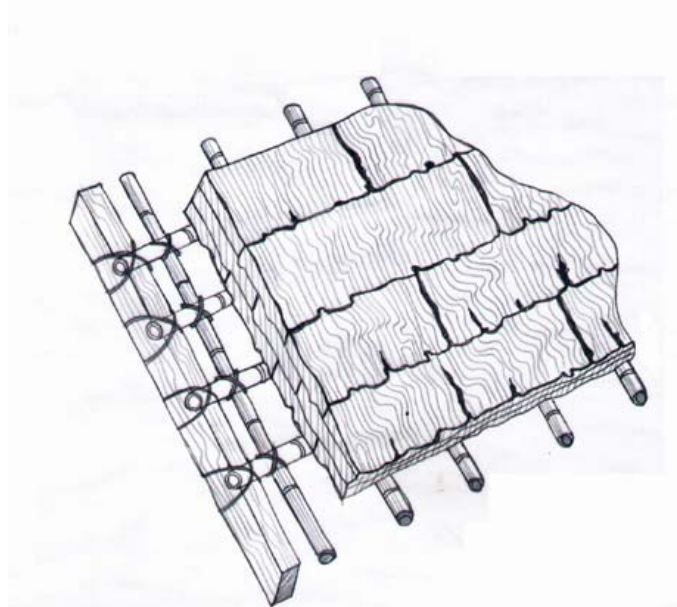
the beam running through the head of columns forming a firmly frame next to the small horizontal beams connected to the main columns (similar as “chong giuong” in the traditional house of Vietnamese).

In the past only the rich family or the Lang be allowed to have the beams on the house, because this beams shall extend the roof of house stretch out of the walls about 0.7 – 1.0m, make the house more and more mighty

in comparison to the simple houses. This is considered one of the privilege of the noble in the Feudalism of Muong people.

b. Structure of the roof:

Traditional house of Muong people consist of 4part of roofs: 2 parts running along the length of house, and other 2 parts running sideways of two heads of the house. The roofs of two heads of the house often have



“diem mai” stretch out more than the large roofs of house that running along the length of house.

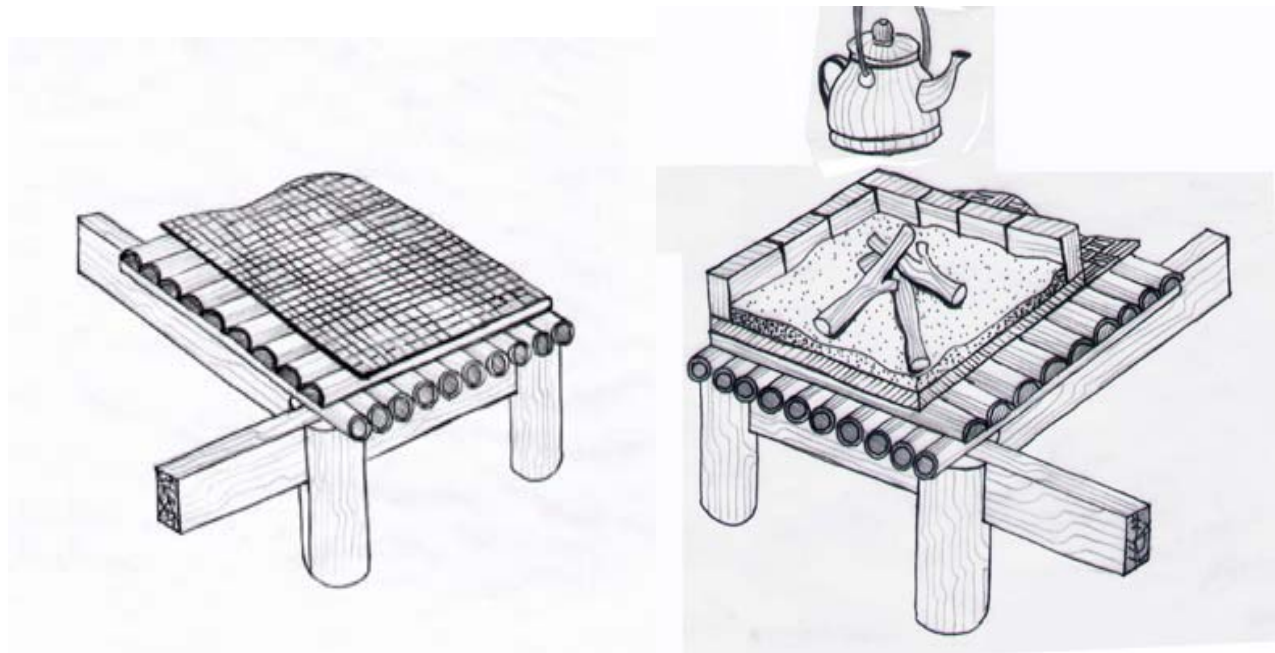
Like the house of Vietnamese, house of Muong people also use “keo” of the roof for the slope of roof and supporting the roofing material for the two large roofs along the house. The big beam is made of natural wood with section about 20 –25 cm. Every 2 main columns shall be uses 2 beam of roof at the middle of the span.

The upper head of “keo” of roof supporting one beam with $d= 20\text{cm}$ made of bamboo. Other head of “keo” fixed to one head of the main columns by a timber “s” shape. In the past, house of the ordinary people, the “keo” of roof only runs to the head of main columns, thus the roof curtain of these house were not stitch out of the walls (about 20 –30cm), whereas houses of the Lang have the roof curtains stretch out from 0.7 – 1.0m).

Beside the main “keo” made by wood, at the two heads of the

c. Structures of floor

Floor in the traditional house of Muong people is very important because this is the surface where all activities of family take place. Muong people do not use bed and eating table, all activities are taken place directly on the floor, even on the festival or traditional holidays food also be placed on the floor surface.



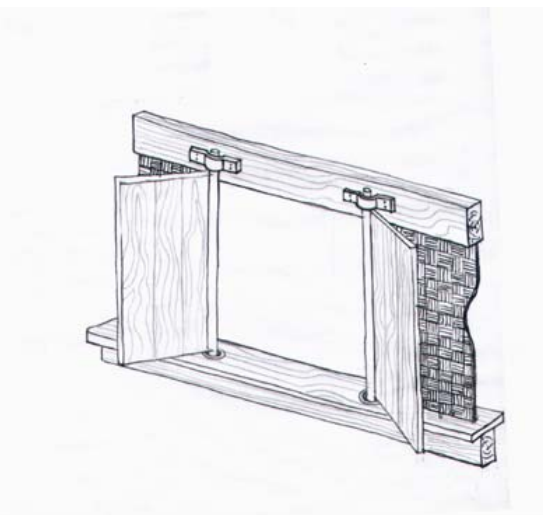
Structure of the floor is rather complicated, including many layers, junctions to each other. The Muong’s house normally consists of 3 layers. The layer next to the supporting beam, conjuncting small columns and main columns is bamboo in round shape $d= 80\text{mm} - 100\text{mm}$ lining horizontal on the house. These pieces of bamboos are lining closely to each

other and fixed into the main beams by the rattan wires. This material always to treat termite before fixing by soaking them in the ponds for at least 1-2 months. Above this layer, there is another layer lining by the pieces old bamboo trees with 2-3 meters long/each, $d= 60-80\text{mm}$, leave into two parts and put next to the lower layer as closely as possible, then fix by rattan wires.

The last layer (surface of floor) is made also by bamboo trees smashing to laths about 3-5mm width, to knit the lath to a trellis matting, then fixing them on the bamboo layers. For fixing these mats on the main frame of the house, they tied the knots by rattan wires.

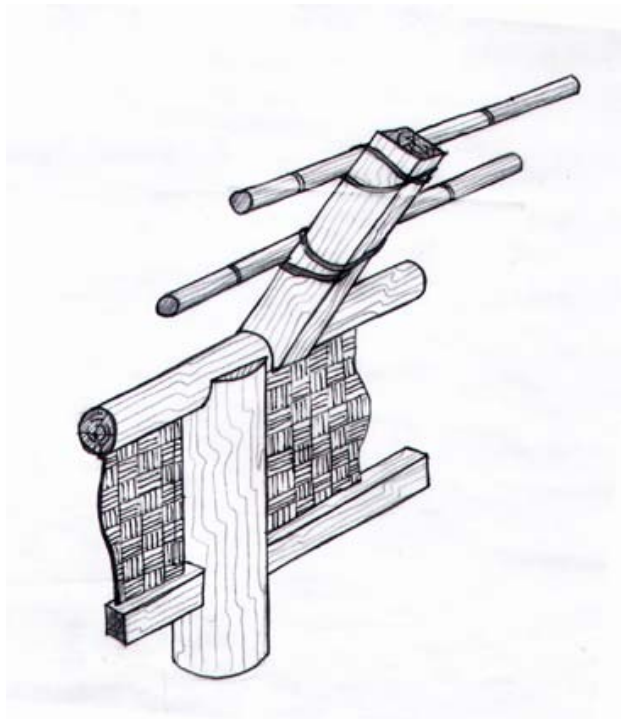
Design of 3-layers structure for the floor seems rather complicated, but it ensure firmly and creating a tight, homogeneous floor, separating the inside space with the lower space under the floor where normally breeding cattle and also preventing the harmful insects to the health of people, like fly, mosquito, flea...etc. This ways of structuring of floor is one of the typical of houses for all ethnic minorities in the North West region, not only the Muong themselves.

d. Structure of the walls/partitions (covering structure)



This structure help the family to avoid adverse effects by the nature, such as: wind or rain. Walls of the house is made by bamboo tree's lath (to knit the lath to a trellis matting). The trellis matting to be connected to the main frames by the rattan wires. However, beside the permanent partition by trellis matting, the covering structure of the house also

In the traditional house of Muong people, the structure of walls normal with the role of separating the space inside with the outside of the house, as well as dividing the space of the house into spaces with its own functioning.



includes large windows locate in the middle of space between 2 main columns. Window is made of timber without paint, only bamboo nails to combine small timbers to big timber about 30cm - 35cm width. The frame of windows are made of natural woods, $d = 30\text{mm} \times 40\text{mm}$. There are bracings directly conjunct to the house's frame to ensure the firmly of windows structure. Windows are connected to the frame by tenons - one of the precise connections ways often find in the house of the ethnic mountainous region in the North West, as similar as the hint on the traditional house of Vietnamese.

4. Traditional construction material:

Many kinds of material have used in the traditional house of Muong people. But they are in general exploited from the natural sources available at the province. Like the Vietnamese, from the first time of getting married, Muong people start to plant perennial trees at the surrounding areas of their house so that when his son/daughters grown up, that would be the main source of material for construction their traditional houses beside the material taken from the nature.

4.1. Material for frame of the house:

In general, in the traditional house of Muong people, frame is made of wood. The main columns often have big diameters, 300 mm -400 mm. So it often be taken from the nature. Muong people always chose the best woods in the forest for their houses, like: Nghien, Lim, Tau...to make columns as they can be used long time and good strength. At present, after 100 years, there are still available some houses where the main columns still good, can be used more time. The sub-columns made by wood with smaller diameter (between 10 -15cm), such as "xoan", "de". Due to the ways of connecting between the head of main columns and the beams supporting the floor, thus it is quite easy to change these sub-columns when needed.

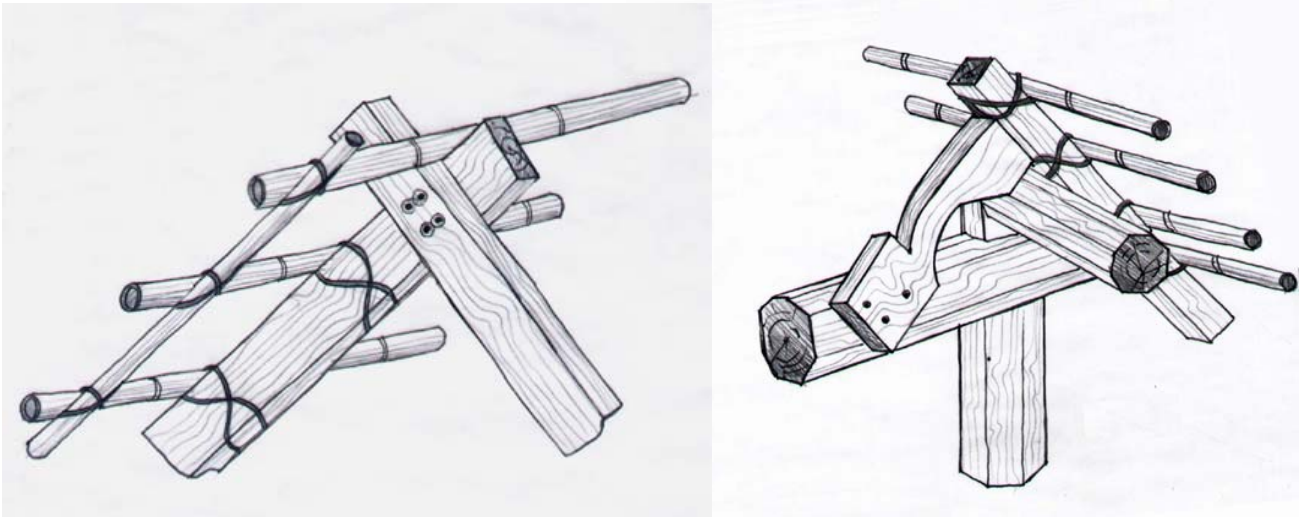
The big trees after brought from the forest would be soaked in th lake or ponds for 2-3 months before use for construction. This soaking keep the wood out of the damage of termite, worm-hole and cavity

All of the beams conjunct between the main columns and its sub-columns for supporting the floor sometimes to be used by the good wood like "sen, nghien", "tau".... In the frame of the house, besides connecting by tenons, Muong people often use wires made from rattan or bamboo, splitting in slices and dry up before use then it become a connection material with high strength-resistance.

Beside woods to be used for the frame of house, carved stones also used for chocking the foots of the main columns. This one of the progress in construction, as they found out that the foot of main columns will be damaged very quickly if directly contact to the soil where is wet, then damage by the termite and worm-hole. The carved stone can be easily taken from the mountains, then being fabricated to make them have the shape of square or rectangle about 50mm thick, one face is planed smooth and other face can be rough. The smooth surface will be chocked under the main column, the rough surface will be fixed in the ground.

4.2. Character of material of roofing:

There are multiform of material use for roofing in the traditional house of Muong people. The frame and columns are made of wood or bamboo. Mains columns often made by good woods like "nghien". "sen", "tau".... For simple houses they can use "xoan" instead, but it will not long time. The sub-columns sometimes to be used by bamboo or species of bamboo available everywhere of



region. The joints on roof structure can be connected by wires made from bamboo/species of bamboo. Roofing material often be used by along grass, available everywhere near the mountain. Muong people often cut this grass and dry carefully for 3 times "ba cai nang". Before roofing the house, they choose the grass with length of about 60cm, use bamboo strip and bamboo lath to tie and combine the dried grass into a big screen (RE). Due to long time experience from time to time in lining the screen of grasses that can prevent rainy water, and the roof have a very long life, sometimes 20 years. They also can replace the along grass by other kind of grass, like elephant grass, leaves of tree....

4.3. Character of material of floor structure:

As it was mentioned above the " The house on stilts " of Muong people is the place for all activities of family take place. Normally the house comprises of 3 layers. The lower layer is bamboo, diameter between 60 - 80 mm, which were soak in river, pond for preventing termite and worm-hole. The second layer is also made by bamboo with semicircle shape arranging closely together. The third layer or surface of floor which is the most importance and carefully fabricated. For the simple space, the floor is covered by bamboo screens to be knitted by bamboo strips with about 3-5cm width and 3-5mm thick. The floor is cleaned up after constructed, then polished. In the area where located the kitchen, the bamboo screen is replaced by the layer of clay about 20 - 25cm thick, directly heap up on the structure of floor. Then bricks are arranged the kitchen area and fill a layer of sand to make a separate layer for heating, preventing high temperature to affect to the floor.

4.4. Character of material of covering walls

The covering walls for house of Muong people normally made of bamboo screens. They took the positive advantages of bamboo tree and species of bamboo as force resistant, good at all conditions, easy to fabricate and available at everywhere in the village. People often choose the solid cored bamboo tree, straight, putting into pond or lake for 1 - 2 months, then dry up and split into strips and knit them to a bamboo screens as used for the floor. But the screen for partitions is thinner and smaller.

For the leaf of windows and doors, wood is still the main material to use. Sometimes, we can find houses where door leaf made of bamboo screen, similar as in the house of the Vietnamese.

5. Characters of construction methods:

5.1. Construction methods:

Through many generations, Muong people handed-over experience of building traditional house for their offspring. Dislike the Vietnamese, the house of Muong do not use the frame as the basic module for construction the house, whereas they choose the method of construction part by part continually. This is considered as an backward in comparison to the Vietnamese construction method. However, this can be explained as because of the geography of the region, where the construction site are rough, high slopes. Whereas the site/space is nor big enough for installation of the house's frame.

5.2. Character of construction of the main frame:

According to the constructional procedure of a house mentioned in the book with title: " Muong People at TanLac District, HoaBinh Province" - of the Cultural and Information Publishing House of Ha Son Binh Province, Prof. Dr. TranTu has noted " the frame of a traditional house of Muong people often follow the following procedures:

- First, people certify the location of the main columns on the chosen site. After marking exactly place of main columns, the carved stones will be buried. This work is very important as it will influence to the balance of the frame. Then the main columns which were carved and plane carefully to install to the carved stone's locations. After that the big beams will fix the head and body of the main columns, forming a firmly frame that can standstill itself. If the house design to have many partitions, so from the first 4 main columns making a first partition of house, then by using the beam another new partitions will be fixed step by steps until reaching the designed length of the house.

- When the frame of the main columns is installed and standing upright, then the columns of corridor are installed. These columns are also connected to a carved stone. The beams conjunct them to the frame of main columns. After the frame of main columns and corridor columns are closely connected together, the bracings of the roof will be fixed by ternons and bamboo nails. When the bracings of roof are connected, the sub- bracings by bamboo will be tied by wire/strips.

After fixing the roof structure, layers of floor will be started to arrange. Then become the roofing procedure and covering structures. During the construction of floor layers, reinforcement columns by wood for supporting the floor are supplemented to the joints..." However, the frame of house have constructed under a very clearly procedure as designed. Every procedure needs some kinds of tools and special skills. This is reflex a rather high quality of construction and management.

5.3 Character of construction of the roof.

After completed the frame of house and the structure of roof, then become roofing procedure. This must be prepared carefully with exactly management and cooperation of labors at work. Material for roof is along grass. Women are responsible for choosing the dry grass of 60 cm length and combine them into a big screen/mattress of 60cm width, 1cm - 1.5cm length, 5cm - 7cm thick, by using the bamboo strips or bamboo laths. It is called Ral. Men climb up to the roof for roofing. They are all skillful men. They arrange the Ral layer by layers from the upper part to the lower one so that the layer of upper parts come in between the lowers. The Ral will be arranged as thick as good until the roof layer is about 25cm

- 30cm thick. On the top of roof where two roofs meeting together, one Ral in round shape to be fixed in, covering the joint.

5.4. Construction tools:

On the file document, it is noted that with the simple construction methods as mentioned above, the construction tools are also very primitive. Some tools for fabrication the wood like: knife, bush-hook and some types of hatchets....

Installation method is quite primitive, mainly based on the human strength and his skillful hands, without any support of the modern tools.

6. Evaluation

Scientific value :

It has a strange style of building construction (they build the house by assembling each elements to the others, each element was produce one by one).

It has their own way to organize their living space, using all the area (on the ground, above the ground to organize the living space.)

Using the natural wind for ventilation.

Historical and cultural value:

It is a example of a colorful and beautiful of one of the minority ethnic group in southern of Vietnam.

The house on pier have the important role in all the communal activity of the Muong. It is the place where every people in the village organize the meeting when they have to make the important decision of the commune.

The house on pier also is the important place to organize the traditional festival (one of the most important parts in the spirit life of Muong people).

7. Conclusion:

Based on the study, we can find out that the traditional house of Muong people are remarkable accustomed itself to the natural conditions. The natural conditions have brought a special character for the village and the house. Studies also showed that the construction method of Muong people somehow has a great spot on the development progress, as it has a closely procedure.... This is only achieved when Muong people have a long traditional cultural rather develop and a store of abundant of experiences at work.

**The proposals of conservation, restoration and management
the traditional HOUSE OF Muong PEOPLE
Tanlac district – Hoabinh province – VIETNAM.**

1. The proposes of heritage management:

The main target of heritage management and conservation is the implementation of some flexible solutions, without the actions of withdrawing the people away from their traditional house that changing the traditional house to a deadly museum and very strange with the environmental landscape and the traditional life. All the

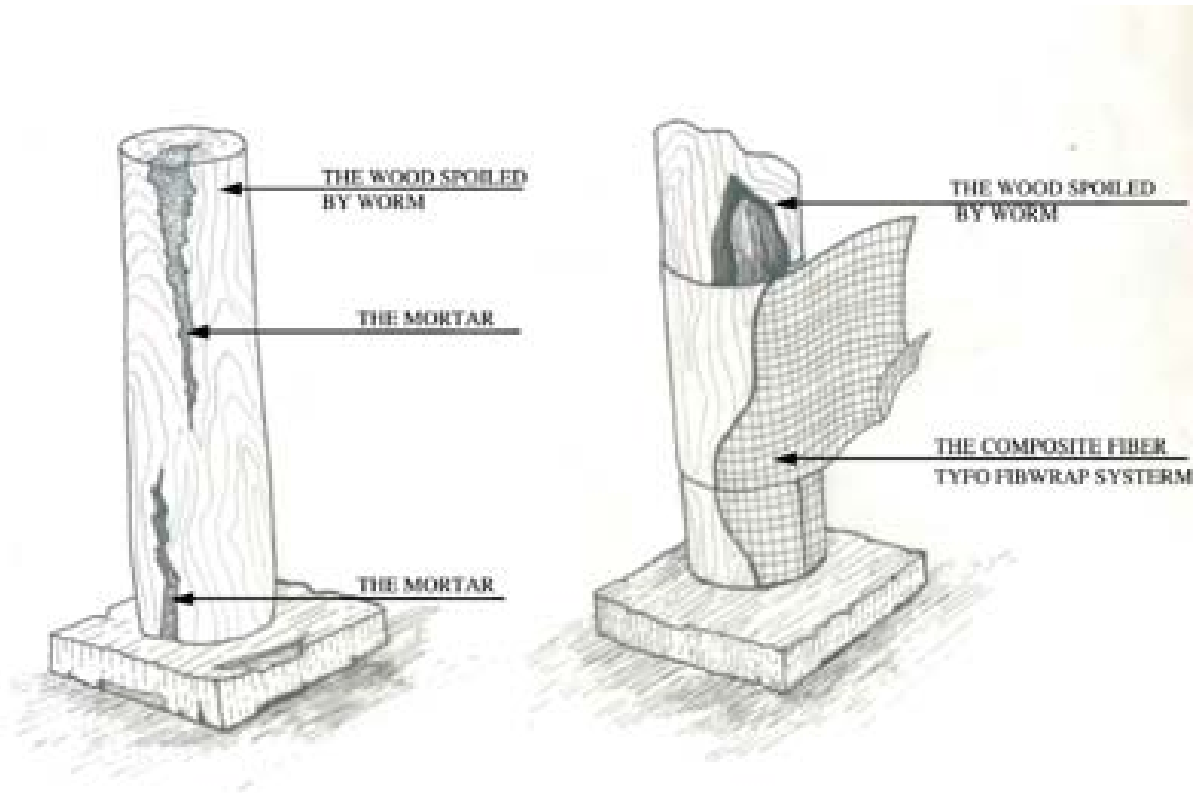
solutions aimed at encouraging all the family continuing live in their traditional house (the heritage), giving to the heritage the breaths of the life and they are also the safeguards for the heritage. The commune can get the benefit from the heritage as a role of the tourist place and the people can improve the living standard of their life by maintaining and restoring the traditional house.

From all the target, we propose some managing solution. Such as:

- Valuating and recognizing all the values of the traditional house of Muongs – HoaBinh as a heritage in Vietnam that need to sign in The national conservation list.
- Concentrating on perfecting all the normative acts of conservation and management the heritage of the Muongs in HoaBinh province, setting up or correcting some normative acts to unify to the reality (Such as : the rules of setting up the a conservation project, the principles of taking place a heritage restoration project...).
- Taking place the research and survey steps in advance that is the interdisciplinary activities.(culture , construction....).
- Strengthening the articles of law aimed at preserving the heritage (concretizing all the article of violating and destroying the heritage).
- Dissemination widely the cultural heritage law and other implementing normative acts to all the agencies, individuals in the community through some type of advertising (the poster card, mass media...), . Making a clear view of their liabilities in managing, preserving, conservation and restoring the heritage in the local area.
- Perfecting all the local agencies of managing and conservation the heritage in order to assure all the responsibilities by upgrading the knowledge, raising the quantity of the official in managing the heritage.
- Speeding up to train more experts, skilled workers in restoring the heritage and all the people that joined to implementing the heritage conservation project (Such as : the people that setting up the project, designing the structure and details of the project, the inspector of the project...).
- Setting up the planning project for the Muong’s village in HoaBinh province according to the heritage conservation and restoration regulations published by the Ministry of culture that aimed at preserve and bring to play all the traditional values . Making the link between the investment for the conservation - restoration projects and tourist (sustainable tourist) that bringing the benefit for the local community , encourage them to contribute their strength to protect the heritage, against all the violations, establish a peaceful and fresh environment around the heritage.
- Socializing all the activities in conservation and restoring the heritage , taking in advance of all the strength from the community (domestic and foreign person - organization) for the preservation restoration and management the

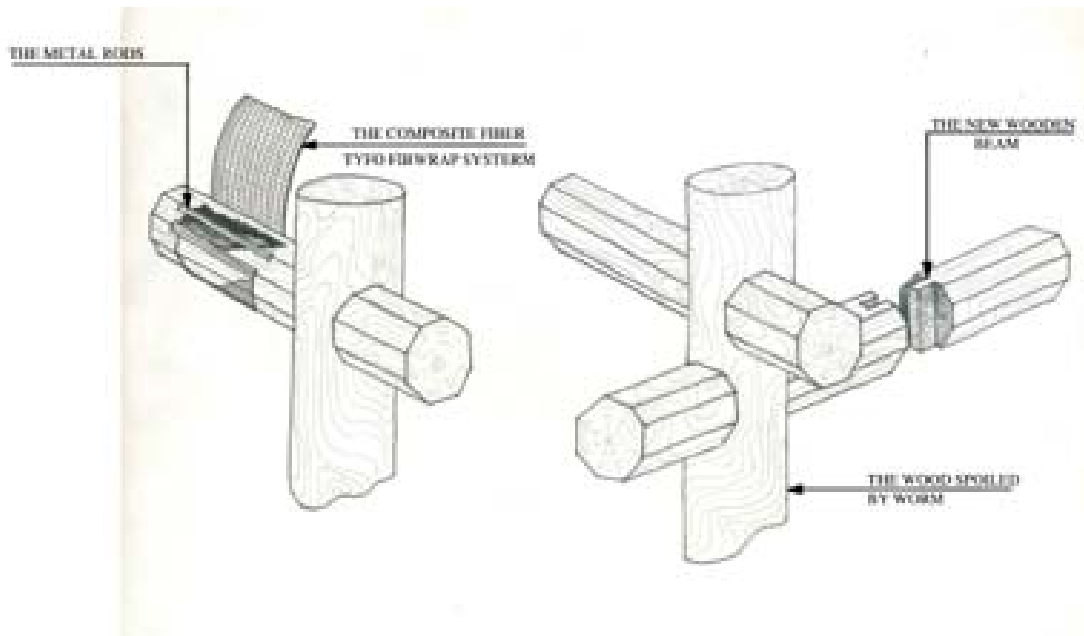
heritage. Tightening the relationship with the international experts , organizations (from UNESCO , ICCROM...) that have much experience in conservation and management the heritage over all fields (such as: education, handing over the tecnich, traditional architecture design, project investment...

2.The proposes of heritage conservation:



inventory, social investigation, evaluations...), establishing the file for the tradition house with the list for everything need to be repair, replace...

- Establishing the conservation regulations for the conservation activities (from the government to the local administrative agencies) in order to prevent the heritage from the destruction of the environment, human and time, limiting the unconsciously intervene and using of the people.
- Using the new tecnich, new material to make a original heritage without change, last – long. It also reduce the duration and the cost of work.
- Restoring all the basic details that be destroyed in the pass to make the original-looking building.
- Improve the living standard of the house (the sanitation condition, health safety..) , improving the natural environment of all the area.



3.The fund:

The money should be funded by the government or organization because the lack of cultural knowledge should cause some disrepairable problem.

The money for the conservation project is not much (about 5000 USD) but it has a huge effect with the community.

After this period, we need to implement a bigger project to socialize the model to create a complete beautiful village of the Muong people.

4.The conclusion:

This is a good project that needs to be done as soon as possible because of the wide effect to the community. It not also contributes of making a better life for Muong people in the northern Vietnam but also improving the quality of the natural environment, reduce the pollution. It also is the important factor to make the sustainable development for the society in Vietnam. In future, if the project will be implemented successfully, it will be applied in other area in Vietnam with other ethnic minority group in Vietnam.

Preferences:

The Vietnamese documentations :

- [1]. Proff NguyÔn Kh¾c Tông ; 1994; “ *The traditional house in Vietnam .* ” ; The Institute of Historic Vietnam .
- [2]. Ministry of Construction – Institute of Architectural Research ; 1997 ; “*The architecture and the tropical climate* “ ; The publishing house of construction.
- [3]. NguyÔn Tô Chi, Bïi V”n S¬ ; 1997 ; “ *The Muong people with the traditional culture in MuongBi – TanLac - HoaBinh* “.
- [4]. TrÇn Tô ; 1996 ; “ *The Muong people in HoaBinh* “ ; The Historical Scientific Association of Vietnam .
- [5]. NguyÔn Thanh Nga, TrÇn Ng¾c Thanh ; 2003 ; “*The Muong people in TanLac- HoaBinh province.* “ ; The Publishing House of Culture.
- [6]. V”ng Anh ; 2001 ; “ *Facing with the culture of Muongs Village – researchs and discussion .* ” ; The Publishing House of Ethnic Culture.

The foreign documentations :

- [10]. J. Cuisinier ; 1948 ; “ *Les Muong – Geographie humaine et sociologie* “ ; Institut d’ Ethnologie , Paris.
- [11]. Piere Grossin ; 1926 ; “ *La province Muong de Hoa Binh.* “ ; Revue Indochinoise.
- [12]. Nguyen Tu Chi ; 1971 ; “ *Croquis Muong* “ ; Revue Etudes Vietnamienes.

The Vietnamese documentations from internet :

- [13]. [http:// www.biogas.co.uk](http://www.biogas.co.uk)
- [14]. [http:// www.ffc.agnet.org](http://www.ffc.agnet.org) - Food and Fertilizer technology center – An International information center for farmer in Asia Pacific region.