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## PATTERNS OF A TYPICAL HOUSE OF HIMACHAL PRADESH- STUDY OF A TRADITIONAL ADOBE HOUSE OF KANGRA VALLEY

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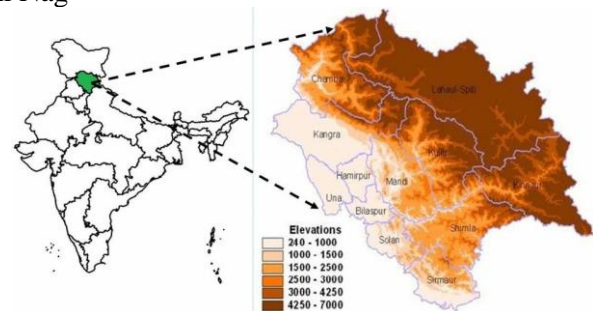
### Abstract

Known for its utmost beauty, Himachal Pradesh is one of the coldest states of India. Parts of it, experience heavy snowfall and parts of it, experience heavy rain. The traditional construction techniques were a result of the cold weather, the prevailing winds and the uneven topography. This resulted in forming techniques which were climate responsive. Now days, people are shifting from the traditional construction methods to modern day construction. Due to this, the new generation is losing touch from the construction styles which were formed by the living experiences of the previous generation. This paper will focus on the details of a typical vernacular house in the Kangra valley region of Himachal Pradesh.

### Introduction

Vernacular architecture is also known as architecture of the people. It is not practiced by professionals but is done by the local people and is one of its kind. The reason it is named so is because from years, people had been experimenting with various techniques to finally have a construction style that would fit their weather conditions, would depict their traditions and culture and would also economically benefit them. In vernacular architecture, the construction material used is the locally available material as this helps in cutting down the cost to a huge extent.

Himachal Pradesh is divided into three parts, namely, upper Himachal, middle Himachal and lower Himachal.



Map of Himachal showing the distinctions (image source: [https://www.researchgate.net/figure/Elevation-map-of-Himachal-Pradesh-state-of-India\\_fig1\\_275337696](https://www.researchgate.net/figure/Elevation-map-of-Himachal-Pradesh-state-of-India_fig1_275337696))

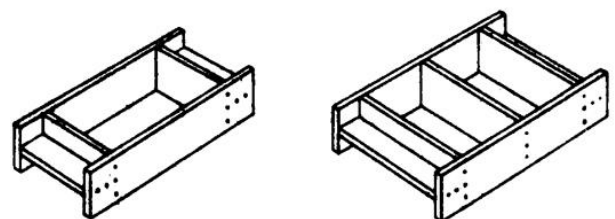
Based on the area, the construction style found is of the following types:

1. Mud construction
2. Dry stone masonry

### Kangra region

Kangra lies in the lower part of Himachal Pradesh. This area mainly faces heavy rainfall during the monsoons, hence, it falls under the cold and wet climate typology.

The construction style in this area is adobe mud construction. Adobe comprises of mud and water mainly and the bricks made from it are dried in the sun. The average size of a single adobe brick can vary according to the requirement but generally, an adobe wall is 18-24 inches thick.



Moulds for adobe bricks

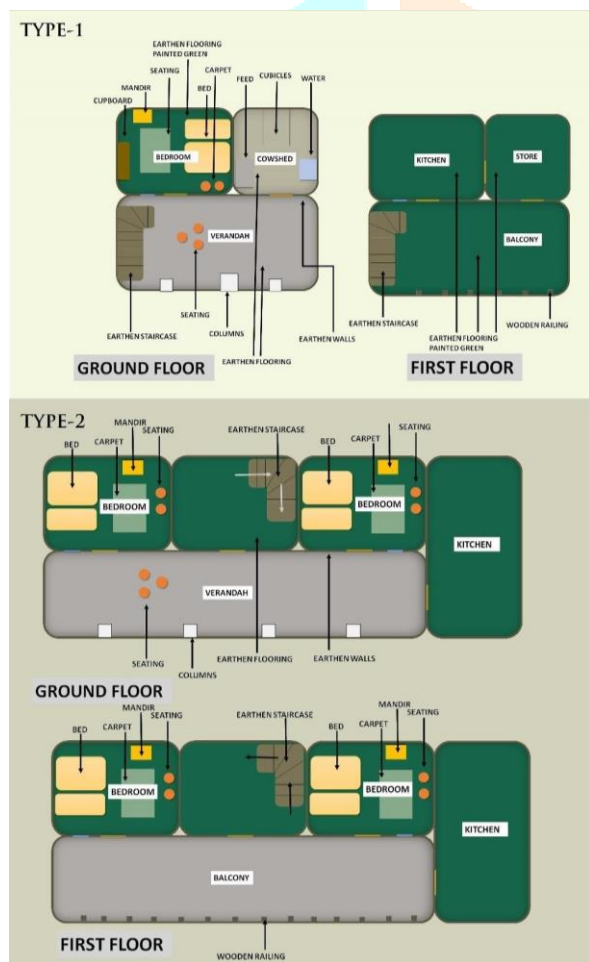
(Image source: [https://aces.nmsu.edu/pubs/\\_g/G521/](https://aces.nmsu.edu/pubs/_g/G521/))

### Selection of site and spatial pattern of the house forms

The main occupation of people of this area is farming and animal husbandry. Hence, the factors that are kept into consideration while selecting a site for the houses are water source, land for cultivation and animal pasture.

Once the site is selected, the house is usually built in two storeys. The ground floor consists of an open verandah where the guests are received. The kitchen is located on the upper floor in order to provide heat to the other spaces of the house and to keep it away from extreme weather conditions. Earlier, the verandah was also used for the men to bathe and the kitchen had a bathing space for women. However, now days, people have toilet and bathroom located at a distance from their house.

The open verandah and the balcony receive abundant sunlight due to which these spaces are used for community interaction.



Spatial pattern of the house (Image source: Author)

### Orientation

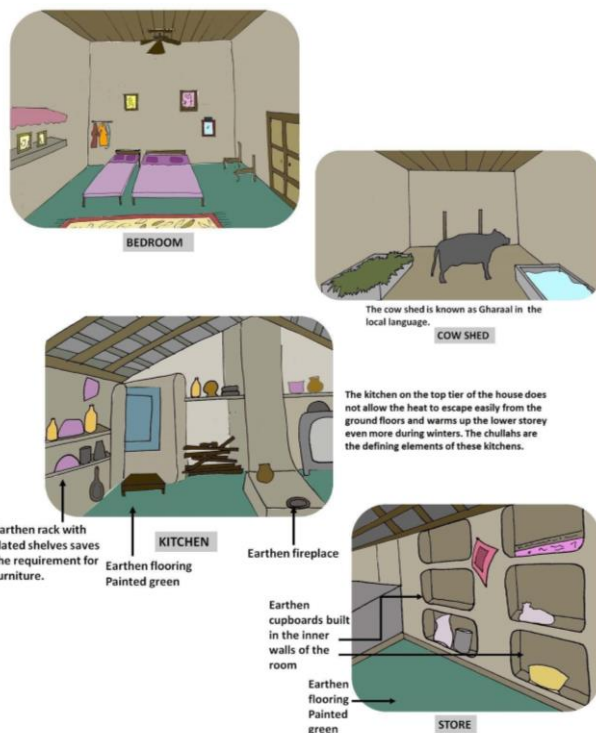
The houses are made to orient in a manner such that they receive maximum amount of sunlight, with south facing courtyards and northern façade of the houses is usually kept blank in order to avoid the cold winds from entering inside the house.

The houses are usually built around a courtyard in which courtyard serves as a space for community interaction and also for extending the space for the future expansion of the house.

### Interior pattern

The interiors of the house are usually simple. The paints used on the mud walls are usually earthen colours. In some cases, the walls are kept raw. For storage purposes, earthen cupboards are built within the walls. In case of a shelf, they're usually made of wood.

The earthen fireplace in the kitchen helps in keeping the other rooms warm. The smoke from the fire place helps in keeping the insects away from the kitchen.



Interior pattern of the house (Image source: Author)

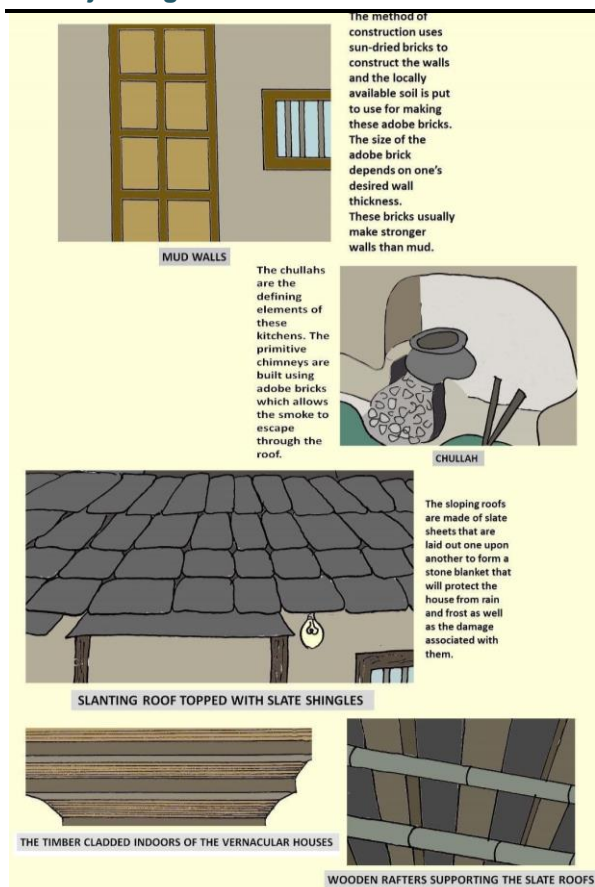
### Construction Pattern

The materials used to construct these houses are mud, bamboo, timber and stone.

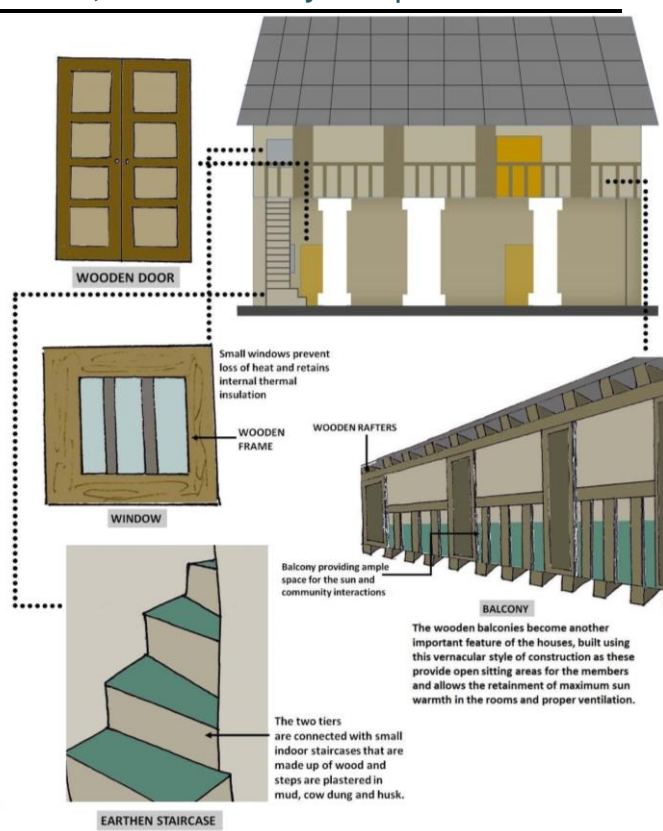
These materials are locally available and cut down the cost to great extent. Mud is inexpensive and need not be bought from outside. Bamboo is grown by the people themselves in their homes and stones are bought from the river bed.

Mud helps in keeping the interiors at a comfortable temperature. It helps in maintaining the houses cool during summers and warm during winters. Also, mud as a material is easy to mould, hence, it is easy to break it down and rebuild it according to the need. The mud houses are usually self-made with the help of a couple of masons.

Overall, the positives of using mud as a material is thermal comfort, easy to mould, cost effective, easily available and consumes less time to build.



**Construction pattern**  
(Image source: Author)



**Façade pattern**  
(Image source: Author)

The sloping roofs are made of slates by forming sheets that are placed one upon the other which help in preventing water from entering the house during rains and from frost during winters. Use of bamboo and wooden rafters is done to support the slate tiles. On the ground floor, the roof is made of bamboo which is supported with beams made of wood. The window openings are made smaller in size to avoid cold winds from entering.

**Façade pattern**

The house is built on a plinth made of stones to prevent the seismic waves as the area falls under Zone IV and V.

The main elements of the façade are the wooden balcony, the wooden doors and windows, columns and the earthen staircase that connects the two floors.

**References:**

1. Vernacular built forms in Kangra valley and their relationship to livelihood- By Lakshmi Swaminathan
2. Works done by Didi Contractor
3. Sustainable architecture for the hills: An anthropological approach to the fading vernacular architecture of western Himalayas with special emphasis on Rakkar village of district Kangra of Himachal Pradesh

**Conclusion:**

The changing times have made people shift from their traditional vernacular houses to modern day construction in Kangra and many other parts of Himachal Pradesh. This has led to a loss of culture and tradition in the original architecture of the area which was a result of several trials and techniques made by the local people over the past years. However, the traditional vernacular architecture of the area maintained a connection between man and the environment which has been impacted by modernity in many parts of Himachal Pradesh.