

Nānnanz or Larri at Shāradā: Specimens of Human Habitat and Aesthetics of the Neelam Valley

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Abstract: *Larri*, the wooden houses are manmade habitat of the Neelam Valley (Azad Kashmir), justify their being environment friendly, for having capacity to protect from the natural hazards. The efficacy of these structures lies in their inherent earthquake resistant properties. Wooden structures are basically timber based frames, which have proved to be popular all over the world in the earthquake prone areas. An example is the earthquake of 2005, which approved this along with protection of wooden structures from the extreme weathering conditions. These are so planned that the entire needs of these people could be catered, even with changing conditions of seasons. Furthermore, the wooden dwellings skilfully maintain kitchens and washrooms, though wood is vulnerable to fire and water. Aesthetically these houses are not simple, rather adorned with carvings. Lovely motifs are carved on various parts of the structures, whether inhabited by simple or by sophisticated class. The research will be an onsite study of wooden houses of Shāradā, in the Neelam Valley, locally called Larri or Nānnanz. The analysis of structural and functional values of the wooden houses is made and recommendations proposed.

Keywords: Cantilever Principle, Dovetail Joints, Lari, Nānnanz, Neelam Valley, Shāh-i Ḥamadān, Shāradā

Introduction

Kashmir is known as heaven on the earth for its exquisiteness, having lush green mountains, and valleys like fairy meadows. The earthly heaven is replete with manmade beauty too; Nānnanz¹ or Larri² being one of these, embedded into nature as if grew out of its soil (Fig. 1). Shelter, a fundamental need and aesthetics a basic human instinct, the former is required for protecting corporeal self of man and the latter innate in him by birth. From the times immemorial, man is trying to protect himself from vicissitudes of climate and other hazards that compelled him to seek for shelter. Earliest being caves the natural dwellings, but with the progress of intellect, man turned for self made places of refuge. These were shaped in accordance with his requirements, because his intellect made him master of his fate. But certain restrictions brought novelties for the structures, to mention a few, geography, climate and the available materials, are the core realities. The wooden houses of Kashmir are true specimens of these realities. These are precariously scattered, mostly on the bank or in the vicinity of the Neelam River, previously known as Kishan Ganga.

These are apparently very simple structures but fulfil almost all requirements, necessary for human dwellings. Wood is vulnerable to fire but amazing fact is that it is lit in the kitchen of each house, for being located in its innermost part. Water too, is fatal for wood but these houses have washrooms, all constructed of wood. The Neelam valley has numerous specimens of such structures but the present work focuses only on the wooden houses of Shāradā to give a detailed account of their structures, functionality along with aesthetics of its dwellers.

Most of the buildings in Kashmir are made of wood, except monumental stone edifices of the Buddhist-Hindu periods; most of which have disappeared with the passage of time. For, Kashmir is a rugged terrain where houses are precariously scattered on available plains, atop or by the side of hill, while stone structures cannot stand firmly at ledges. Wood, on the other hand, is the most suitable building material for climatic conditions of the region as well as its availability (Brown 1998: 85).

Interesting geography of the land is traced by Kashfi that the region millennia earlier consisted

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of a vast lake, surrounded from all around by snow covered lofty mountains from where water seeped into the lake. Finding a path in north-western quarters of the lofty peaks, water of the lake drained slowly and a valley of unprecedented beauty emerged out of it. But it still retains some very spectacular smaller lakes³ to keep a specimen of its previous position (Kashfi 1965: 85). In the geographical context, the Neelam Valley⁴ falls within the offshoots of the Himalayas and occupies south-western corner in Pakistan administered Kashmir. It is divided by the Line of Control along the River Neelum⁵ in the east, from the Indian held Kashmir. In the west, it runs parallel to the Kaghan valley, and the connecting route of Silk Road joins it in the north (Neve 1945: 152-153; Bates 1873:7).

Brief Political History of Kashmir

The earliest history of the region is traced from

Suryavanci Dynasty. It is said that the *Mahābhārata* War occurred twenty years after the beginning of its first ruler. Names of twenty five Pāndava kings are recorded on a birch bark (Stein 1900: 61; Sufi 1940: 20; Parmu 1969: 35). But Ashoka's rule (269 -232 BCE) is a landmark in Kashmir for stone monuments; sculptures, temples and monasteries (Stein 1900: 336; Sufi 1940: 22). During the rule of Kanishka, the fourth Buddhist council was convened in Kashmir; who is also credited to have founded the city of Kanishkapura, now known as Kānispūr. He also expanded his empire by conquering Kāshgar, Yarkand and Khutan. After Vasishka (c. 247-60 CE) started decline of active patronage of Buddhism in Kashmir. The rise of the Gonanda dynasty paved way for desecration of Buddhist establishments, which actually marked devastation of Buddhism in Kashmir and the neighbouring areas (Kaul 2009: 23-25; Ray 1969: 36).



Figure 1. Wooden houses of Shāradā, Neelam Valley (Kashmir) (Photograph: Authors)

Most defined section of Kashmir's history is that of Karkota Dynasty (627-63 CE), when Xuanzang visited the region (Sufi 1940: 31; Ray 1969: 45). But most pronounced role in the region was played by King Lalitaditya Muktapida (724-60 CE) (Ray 1969: 46-48). Numerous temples and cities are extended to his credit like the famous temple of Shāradā. Then came the rule of Lohara Dynasty (950-1003 CE) led by Queen Didda, the first female ruler of the Kashmir Valley. A novel turn occurred with King Rinchina Shāh (d. 1324), who converted to Islam and ruled as Ṣadr al-Dīn Shāh, the first Muslim ruler of the valley. After his death his queen Kota Rāni took over power but proved to be the last Hindu sovereign of the valley. She was deposed in 1341 by her minister Shāh Mīr, gaining the title of Shams al-Dīn (Bates 1873: 105; Stein 1900: 210). He established a Muslim dynasty, extending their rule for two centuries. One of his descendents, King Shahāb al-Dīn, expanded the empire further and annexed his sovereignty to Tibet and Kāshghar. It was during his reign that the renowned ṣufi saint Syed 'Ali Ḥamadāni along with his disciples passed by Kashmir (Rabbani 1981:02).

The most significant rule is that of Sulṭān Zain al-'Ābidīn (1422-1474), who extended respect for all religious sects, and the renowned Shāradā Temple was repaired after his orders. Artisans from central Asia were also invited to train locals, thus refinement of wooden houses of the valley are also indebted to him. Then Chak Family (1553-1586) ruled over Kashmir and then the Mughals took over for hundred years. Kashmir remained summer resort of the Mughals, who introduced their unique architectural style in the valley (Kaul 1990: 51; Bates 1873:106). Then Afghan rule began in 1752, but in 1814 Ranjīt Singh ended the Muslim Rule (Lawrence 1909: 26-27), whose era is recalled for a brutal stronghold.

Most of the aesthetic and cultural development of Kashmir is attributed to the arrival of the Muslim saints, the most influential being Shāh-i Ḥamadān. He came from central Asia along with his companions, bringing about a change in all of its institutions. But the earliest inhabitants of the valley were meditating mystics of Hinduism who used to locate for a lonely place with beauty

of nature and comfort of life. Having abundance of food and exquisite nature, they made Kashmir their abode. Soon after, a university at Shāradā was established, known to be unique institution of Sanskrit language (Kashfi 1965:18). Besides all, not much had been done up till then, for social uplift of the people, as discrimination of caste and creed destroyed its social institutions. But with the arrival of Islam, when in the 14th century, a Turk saint Ḥaḍrat Bulbul Shāh⁶ arrived and things settled amicably in the context of justice, equality and peace. He is supposed to have accompanied by a large number of Syeds. These saints settled in various parts of the valley and apart from their services to religion, spreading of Islam, they established academic institutions along with crafts' schools. It formulated such an organisation of craftsmen that brought economy of Kashmir to its meridian, trade expanded to the neighbouring countries, including Iran and Turan. Interaction with other cultures is a cause of a variety of influences in its arts and crafts that spread in far flung areas around Kashmir. Kamil Khan opines that influence of Kashmir style of architecture spread in many surrounding areas; the lantern roof of the wooden architecture is visible even in decorative elements used to adorn rock carved chambers in Bamiyan Valley in Afghanistan (Mumtaz 1989: 30). It is recorded historically that Shāh-i Hamadān moved to Kāshghar from Kashmir by passing through Baltistān, a cause of Kashmiri style architecture there (Dani 1989: 41; see also Shah and Hameed 2012).

Nānnanz or Larri

Most of the wooden houses are near rivers or small rivulets, people do not need to excavate wells but flowing water of the streams and *Nullha*⁷ is the main source of water supply. Running water flows in front of their houses and inhabitants use it for all sorts of purposes. Wood is easily available material as Brown finds that a variety of Cedar (Deodar) wood is used as construction material of these houses (Brown 1998: 85), as based on undressed simple wooden logs or dressed planks.

Selection of land to build a house also needs logical search. Structure of every house is raised on a stone plinth, essential for its stability and also



Figure 2. An old house (may be more than hundred years of age) in Shāradā (Photograph: Authors).

to save it from moisture and termite (Fig. 2). Stone plinth also strengthens foundation of structure, because in the entire valley foundations of a house are not laid on earthen mounds but strong stone bases are chosen to construct a structure. It avoids hazards of sinking down or slipping away of the entire structures with huge snow slabs that may fall from snow-covered mountains, leaving no mark of existence, if get activated. Hence, solid rocky areas are sorted out which are considered best spaces to build houses. In other mountainous regions, where partially wooden structures exist, their upright posts are also fixed within square stone slabs (Fig. 3) before burying their bases within ground, so that wood must not come in direct contact with moisture of earth, saving it from decay and termite.

The wooden houses are multi-storeyed structures (Figs. 4, 5), and each section serves some purpose of utility. The lowermost, that is ground floor, is reserved for animals that satisfy most of their basic needs. First floor (or second storey) is meant for living quarters, keeping entire facilities to have convenient living, even in most unpropitious conditions of extreme cold. The uppermost which is attic, created by gable of the roof is also the most valuable because it serves the function of preserving food for rainy days and also acts as an insulation barrier between the house and the surrounding cold winds.

Plans of all houses of the Neelam Valley are almost similar, with minor variation in their sizes. The ground floor consists of two chambers with a small hall. It is enclosed from all sides, except



Figure 3. Stone-base of wooden post to be fixed in ground (Photograph: Authors).



Figure 4. An old house which may be about 130 years old (Photograph: Authors).



Figure 5. Another specimen of wooden houses at Shāradā (Photograph courtesy: Haidri 2014)

small windows for light and ventilation and also to keep their cattle warm in winter and safe from extremities of harsh weather. Providing fodder and the process of milking is also done there. The upper floor, which is the living area, consists of a verandah, running mostly on three sides of the house, which is a roofed open gallery. On one side of the verandah there is a single door to enter the house that leads to a central gallery inside, on both sides of which are rooms. It also keeps a staircase leading to the upper floor that is attic. Among the rooms surrounding the gallery, a central room is allocated for kitchen (Figs. 6, 7). It is usually spacious, having a fire hearth for cooking food, an open compartmented cupboard, where utensils are arranged in rows. Oven or furnace is surmounted by a projected mantle on which cooking items are kept. A slanting projection slopes down from its cornice that provides shelter to smoke because a chimney is placed in its inside that opens out by piercing through the gable of the roof. It is a perfect outlet for smoke which keeps the entire

house fresh, because wood is fired within the furnace that emits smoke (Fig. 8).

The fire place is surrounded by low heighted wooden chairs to sit and enjoy warmth in cold weather. Kitchen serves multifarious purposes; besides being a place for cooking food, serving and eating, it functions as a sitting room in winter, especially for the women folk. After cooking food, the other daily toils like embroidery, spinning wool, basketry, etc. are also performed there because of being most cosy section of the house. They use *Namda*⁸ or felt carpet for floor sitting; animal skin is also used for the purpose because kitchen in winter, even serves the function of sleeping room, for being warmer than the entire house. Sometimes a *chārpā'i* that is a bedstead is also placed in the kitchen for sleeping. Thus kitchen in winter becomes a multipurpose central place. It is surrounded by bedrooms that may be four or six in number, according to size of the house. One room, which is longer, serves the function of a pantry, reserved for storage of kitchen accessories and to



Figure 6. Kitchen in a wooden house of Shāradā
(Photograph: Authors)



Figure 7. View of another kitchen in a wooden house
(Photograph: Authors)



Figure 8. Chimney to emit smoke and suspended washroom (Photograph: Authors).

keep a little amount of fire wood for daily use only. Otherwise fire wood is placed in a separate room on ground floor, where cattle are kept. Grain, rice and pulses are kept within wooden containers, formed by hollowed wooden trunks (Fig. 9), herbs and dried up vegetables are placed within home-made baskets, and oil prepared from butter is also kept within the pantry.

The most amazing part about kitchen is that the whole structure is wooden, wood ignites fire in the cooking oven but the house is not ablazed. To overcome threat of blazing, a thick layer of mud-plaster is applied at the fireplace and the area around for safety of the entire wooden structure (Fig. 10). Thick coat of plaster is also applied on mantle, as a safety measure. Herbs and shrubs of the valley are chopped and mixed into mud to enhance its strength and binding power.

Washroom is an essential part of each house,

which is in the verandah, projected outside, built on cantilever principle. It is usually a small square room keeping a bucket of water and a small seat to sit and take bath or perform ablution. It is suspended outwards, not placed inside the house to avoid spreading of moisture in the structure (Fig. 11). Moreover, in olden houses, where pipe system was not introduced, channels of wooden planks were employed to through away used and waste water (Fig. 13). But after the earthquake of 2005, many modern elements were introduced in the remote areas (Fig. 12) thus plastic pipes, have replaced wooden ones.

Attic too, is extremely useful and technically constructed for preservation and storage of meat, fruits and vegetables, along with cheese, to save these for rainy days in winter, while preserving their nutrient value as well. Attic is open from both sides to let fresh air cross across the floor to accelerate drying power of the food,



Figure 9. Wooden container used for storing grains (Photograph: Authors).



Figure 10. Fire place with mud-plaster coating (Photograph: Authors).



Figure 11. Projecting washrooms in three floors, based on cantilever principle (Photograph: Authors).

for preservation. So, each storey has a distinct functional value that is constructed for the purpose it is being used (Figs. 14, 15).

Ground floor or sometimes basement, as discussed before, are reserved for keeping cattle, and so designed as to provide hygienic atmosphere to livestock, for which a ventilator in the form of a window is provided, whether it be the first floor or basement. It allows fresh air and light, otherwise, there is no other source for both. But usually, there is only one window, and its size is kept very small, to hold cattle flock warm in extreme cold, because in winter they are kept there and in summer the space is only used at night.

Every facility is maintained in this floor to provide fodder, so wooden mangers are almost fixed in organised way, even if the livestock is larger in number. Mostly six or seven cows along with goats are kept by each owner, so *Bāras*⁹ are spacious enough to accommodate cattle easily and maintain cleanliness of the area as well. This floor is divided into two portions: dwelling of cattle and area to keep fire wood along with fodder, that may be grass or herbage.

Purpose of keeping residential area in the

second storey is to live independent from cattle along with not getting completely apart from them, for, cattle accomplish many of their basic needs, such as providing milk, butter, *ghee*, cheese, meat and even their skins are used for floor covering and wool for warm cloths after spinning. Inner part of this storey is a compact unit, enclosed from all the four sides, but pierced with small windows for ventilation and light. This arrangement keeps a house warm with presence of only one furnace of kitchen, almost in the centre of house. Gallery or verandah on three or four sides of a house is very beneficial, both in winter and summer. It keeps the inner structure away from direct link with extremities of weathers and is also useful, like drying of wet cloths, facilitates fresh air and sunlight, essentially required for healthy living. All provided by verandahs, because these houses have no open courtyards. Summer kitchen is also maintained in one side of the corridor. In a corner of the gallery another hearth is built in the manner of the inner kitchen, with mud-plaster covering. Thus they enjoy summer breeze along with food. Attic (or *wagg*)¹⁰, on the other hand, is used as a store house, where things of utility are kept, which are not in use at the moment and above all



Figure 12. Old and modern wooden houses of Shāradā (Photograph: Authors).



Figure 13. Wooden water channels (Photograph: Authors).



Figure 14 (a, b). Attic, a very useful part of the house (Photograph: Authors).

for drying food for the coming seasons (Fig. 15).

Construction of the houses is actually based on the age old system of building bridges that is on Cantilever principle. The entire structure is laid on massive piers erected on layers of logs to make them strong enough to withstand weight of the edifice, but for ordinary pillars simple tree trunks are used. The strong vertical posts or piers are surmounted by a horizontal one, laid crosswise like headers and stretchers (Figs. 16, 17). Similar treatment is applied for building walls as well as superstructures (Brown 1998: 85). This style of construction is columnar and trabeated, not arcuate, as vertical posts are covered with horizontal beams, either planks of wood are used or logs attached firmly with mortice and tenon method using Dovetail joints. Usually logs of wood are split apart with the help of a saw, forming planks or vertical posts called *thum*, chiselled at the upper ends and fitted into horizontal beams, called *batta*, making a T-shaped construction (Fig. 18). The entire structure is built around that T-shape, fitted so tightly that it interlocks the two

pieces. It is locally called *Chūl* system. It is further criss-crossed with smaller beams, covering the entire ceiling (Figs. 18-20).

The T-shaped vertical and horizontal column and beam serve as the base on which the whole structure of the house is raised. To provide greater solidity and to protect the *thum* from termite, it is fixed within a stone base called *Chuka*. The stone block is hollowed from inside and upright wooden post is fixed within it, not directly pressed into the ground (Fig. 3).

Tracing origin of the structure one finds its base on Yurt that is Mongolian tents (Fig. 20), constructed on the same vertical post and horizontal beam system, with circular ring at the top, provided with some covering. This is an influence of central Asia, also known as Pāmīri style construction¹¹. Many features of central Asian culture are also adopted here. Summer kitchen in verandah is a Timurid tradition, for, Amīr Timūr loved to have banquettes in the open, closer to nature. Although exquisite edifices are



Figure 15. Interior of attic with pronounced cross ventilation (Photograph: Authors).

attributed to him in his homeland, Sumarqand and Bukhara, along with his conquered lands, still he yearned to have nomadic life. He too, preferred to live in Yurt, whenever he came back from conquests.

Wooden houses of Kashmir too perform a similar function, though permanent dwellings but not much different from the nomadic tents, surrounded by nature's most splendid aspects (Fig. 21). These are constructed near river banks, encircled by lofty and lush green mountains. Aesthetics of Timur is reflected in the dwelling place chosen by inhabitants of the houses. They

preferred to live in the upper storey, from where they could have excellent view of the valley, usually facing gushing streams. Moreover, the structures are built on higher up plinths.

These are multi-storeyed structures with their truncated apex, gabled roofs ascending in tiers of pyramidal form, with overhanging eaves to protect lower sections from rain water and snow. Rafters¹² of gables and overhanging eaves are covered with planks of wood further provided with water proof surfaces, as Brown observes, with multiple layers of birch-bark (Brown 1998: 86) locally called *bhuj pattar* (Bates 1870: 370). It is placed in three,



Figure 16. Header and stretcher laying, a method of construction (Photograph: Authors)



Figure 17. Central vertical post and beam (Photograph: Authors)



Figure 18. A specimen of Dovetail joint or Chul system (Photograph: Authors)



Figure 19. Central point of ceiling of the wooden house, viewed from Attic (Photograph: Authors)

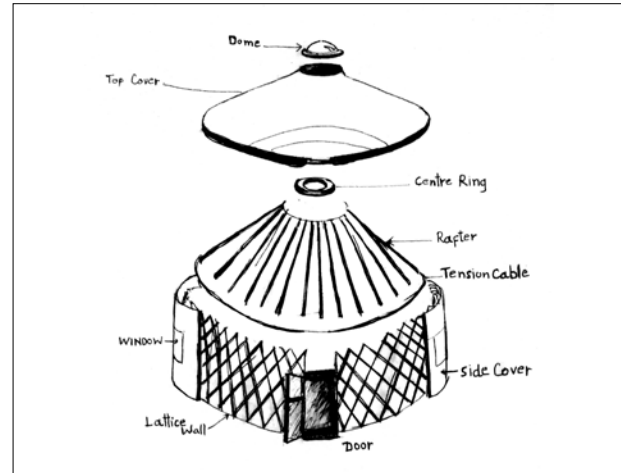


Figure 20. Yurt, Mongolian tent, similar in construction to wooden houses. (Drawing: Authors)

four or five layers, for covering the entire space of gables, forming ridges and recesses (Fig. 22). Slopes of the gables and their undulating plains serve as snow and water conductors because snow does not rest for long on the slanting spaces, and it falls gradually not abruptly, which can be easily replaced when damaged. At places, needles of pine are mixed with mud mortar and placed like frill at edges of the gables; it also works as water conductor that lets water fall drop by drop that protects the inner walls from seepage and decay.

For refined houses, logs are shaped square and their interstices are filled either with bricks or tile work, or developed into niches. Dovetail joint is occasionally used while simple stouter wooden pin are usually applied to join logs (Brown 1998: 85). Some houses contain arches, which are false for not having load bearing capacity, their usage is decorative, only forming fence of verandah (Fig. 23). It adds an element of beauty to the simple structures.

Wood used for construction of houses is indigenous that is locally available. It is fig, pine, shīsham, kail but most frequently used is cedar. If builders of wooden houses are not architects, they are bestowed by nature with probing minds and acute observation. The trees used here emit resin, beneficial in construction, where atmosphere is either wet or humid. Water slips over from their resin coated surfaces. Hence, these are helpful even in washrooms and similar

are the wooden planks used as water channels. Temperature of Shāradā is very cold, where wind blows excessively; it also saves wood from damage or decay. From aesthetic point of view, these houses are not devoid of ornamentation, not only composed of plain wooden planks, rather the simplest structures too provide beautiful contrasts of light and shade. Corridors surrounding mostly three sides of each house, or in some cases, present at the front only, provide functional as well as give attractive values to the structures. In some cases central balcony is projected forward, which breaks monotony of the façade and adds elegance to the structure (Fig. 24). Overhanging eaves truncated superimposed lighter structures, undulating surfaces of birch-bark on roof-gables of the houses, break monotony or rigid formality of the structures and create attractive passages of light and shadow. Verandah is further bedecked with perforated grills of parapets formed by small wooden strips, arranged into a variety of patterns. Spaces between vertical pillars are filled by crisscross placing of wooden strips that compose small diamond shaped perforations (Fig. 25). On the other hand, parapets along with their upper fringes are shaped into patterns by placing of wooden strips into vertical and horizontal arrangements. Back walls of the houses, where there is no verandah, are bedecked, at times, with blind arches; upper margins of their spandrels along with spaces between two arches are filled



Figure 21. Splendid combination of nature and man-made beauty. (Photograph: Authors)



Figure 22. Birch bark, a waterproof coverage for gabled roofs, also water conductors for snow and rain (Photograph: Authors).



Figure 23. False arches and decorative fence (Photograph: Authors)



Figure 24. Projecting balconies and undulating planes creating beauty of light and shade (Photograph: Authors)



Figure 25. Perforated grills and decorative eaves (Photograph: Authors)



Figure 26. Ornamental blind arches with perforated intersections (Photograph: Authors)

with a variety of perforated patterns (Fig. 26). But modern structures are comparatively less decorative; still form interesting patterns of shadows, for, there is a variety of levels of gables of the roofs.

There are winding staircases too, built outside the houses, decked with different shaped planks of wood (Fig. 27). Some houses have wooden engravings on the doors and windows with geometrical designs, and a variety of floral and leaf patterns (Khan 2014:24). Interesting part about

these structures is that their utilitarian objects are mostly wooden but they preferred floor bedding. Shoe-stands are placed in their corridors that are also wooden.

Houses are painted too; usual colours used in the Neelam valley are red, orange, white and blue. Gables of roofs of modern houses, from their upper sides are normally blue of either lighter or darker hue, which appears very attractive within the lush green surroundings of soaring mountains.



Figure 27. Modern wooden house under construction and winding staircase (Photograph: Authors)

Conclusion

The manmade habitat of wooden houses proves that the builders of these structures have astute brains. They, by using materials available in their surroundings, created perfect structures of utility and beauty. From materials to plans and from functionality to ornamentation, they reflect culture of the dwellers. The houses are so designed as to cater all the needs, even those of their livestock. Most amazing fact about wooden houses of the Neelam Valley is that they are environment friendly, and can withstand earthquake of Richter scale 9 that cannot be done even by any stone structure. The reason behind is of building engineering. A stone or brick structure can fully collapse with jolts because it has no elasticity, whereas, the way beams are placed, these go on rotating, causing less damage, as proved in the earthquake of 2005. Excessive destruction was caused by concrete and stone structures, and very less by the wooden. Here architect is nature's child whose culture is moulded by centuries of experiences. These houses are also saved from insects not by any auxiliary help of insecticides but by their daily toils. Smoke emitted from kitchen along with evaporated oil serve the function of insecticide because it provides a bitter covering to the surface of wood and an insect dares not bite it. Thus dwellers of the wooden houses are aesthetes and engineers.

It is thus recommended that *Larri* or *Nānnanz* must not vanish away in the modern age because everything is in the process of evolution and in recent times the process is in most rapid change. With increasing population and aggressive deforestation the houses in Kashmir are now partially built with wood, thus, lack their past elegance. The olden structures too are losing their crispness. The way this practice is decreasing day by day it looks hard that the unique heritage of the valley could be maintained, although this can be a very beneficial source of generating revenue. If careful measures are taken and local population is provided with capacity building resources, it can attract a large number of tourists, who can be accommodated within these houses, if maintained properly. It is recommended that the unique wooden architecture of the Neelam valley must

be restored to protect culture of the valley from further decay.

Notes

1. Wooden houses are called *Nānnanz* in Kashmiri language.
2. *Larri*, in local dialect Hindko, is also a term for wooden houses.
3. To name a few: Wūlar, Dall, Ānchār, Mānsarūr Nāg lakes.
4. Also known in the ancient times as the Valley of Kishan Ganga.
5. Also called Kishan Ganga River.
6. Hazrat Bulbul Shāh was the one who converted Richen Shāh to Islam.
7. Small stream is called *Nullah* in the local dialect.
8. Namda is woolen carpet, which is formed without weaving. Wool is pressed layer after layer then embroidered. It is very useful in winter.
9. Bāra (like Bāfa) in Urdu is an enclosure for cattle.
10. In Kashmiri language, *wagh* is the triangular space formed by gable of the roof that is attic.
11. https://simplydifferently.org/Yurt_Notes (20 Feb. 2017, 07:30 pm)
12. <https://www.roofcalc.org/roof-rafter-calculator/> (March 18, 2017, 09:00 pm)

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