CONSERVING WOODEN STRUCTURE OF NEELUM AND LEEPA VALLEY, KASHMIR

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ABSTRACT
Ancient Houses are a part of our heritage and culture. Culture is very rich in Azad Jammu & Kashmir. One of its examples is the architecture of this region. Ancient Wooden Houses in different areas of Neelum valley and Neepa valley are slightly different with each other on style of construction, material, and engraved art motives. Some of the houses are more than centuries old and are fine example of culture and heritage of Kashmir. Mostly old houses are made of wood. These houses are different from each other in style and technique. A brief comparison of ancient houses of different regions will be done in this regard. Comparison includes architectural style, techniques, material, and motives related to art. It concludes that ancient houses of Kashmir need attention which is necessary for saving our culture and heritage.

Keywords: Kashmir, Art of Woodwork, Neelum and Leepa Valley, Ancient Architecture, Culture Conservation.

INTRODUCTION
The most common area of wooden structural homes was Neelum and Leepa. The architectural point of view the wooden structure plays a significant role and gives the understanding of atmospheric condition of the area with the availability of required wood in the area.

Neelam valley is situated at the North & North-East of Muzaffarabad and running parallel to Kaghan Valley, about 144 km long in Azad Kashmir. The valleys are separated by snow-covered peaks and more than 4000 meters from sea level. Neelum River, lush green forests, enchanting streams and attractive surroundings make the valley a dream come true. The valley, starting from Muzaffarabad, the capital of Azad Kashmir, is about 150 miles long. It lies on both sides of the river Neelum.

- Neelum meets the Jhelum River at Domali (meeting of the two) on the outskirts of Muzaffarabad city. From Patica forest one reaches Nosari, 24 miles ahead of Muzaffarabad.
- Deodar, pine, fir, wild walnut, strawberry and hosts of other high statured trees and other types of wild growth and herbs are the treasure of the valley.

The Leepa valley is the most attractive and fascinating valley in Azad Kashmir – the distance from Muzaffarabad is about 45 Kilometers and welcome local tourists from May to November.

- Its lush green rice fields in summer and typical wooden Kashmiri houses present a wonderful view to the people visiting the area.
- Walnut, Apple, Cherry, and honey of Leepa are very popular and in great demand.

METHODOLOGY
The approach we have adopted in this study is qualitative and we have employed visual analysis methods which are predominant in arts and visual anthropology. We have used both primary as well as secondary data tools. For carrying out analysis, we used purposive judgmental sampling. We collected our images through a photography. The data collection and analysis were carried out simultaneously as we immediately started analyzing the first images we collected, and the later search was modified by what insights we got from the initial analysis of the images. This process corresponds to process of the constant-comparative method, wherein the analysis is started as soon as the first data is collected, and later data collection is adjusted according to the themes which emerge from the analysis of previous data. The themes were later compared to the literature; the literature review was carried out during and after the analysis to match the themes derived from our analysis to the themes in the prior literature.

1. **Wooden Structure of Neelum Valley:**
Many old houses still exists in Neelum Valley – standing with their dignity and pride. Some ancient wooden houses are situated in Tehjia, a small village near Halmat. Tehjia has many breath-taking green spots and a captivating landscape with numerous springs and hill-sides covered with trees. At this place, some of the houses are more than 150 years old.

   i) **Construction One:**
This is located at Kuttan Dudgeyaan and 56 years old construction owned by a former, Muhammad Aftab.

**Description of the House:**
It is a single storey house. Owner of the house and his father built this house together. The farmer lives in the house with his wife and three kids. House has two rooms and one washroom. The size of the rooms is 8x8 feet each. It has one veranda of 8x10 feet size.

![Image of house exterior](image)

**Exterior:**
The house has one main door of size 3.5x6 feet. A small opening like niches exists over the main door of size 2.5x2.5 feet. One corner of the house is resting on a big rock.

![Image of house exterior](image)

**Walls:**
All walls are completely made of wood. The corner junction of the wooden house is constructed of wooden logs laid alternatively over one another.
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Basement:
The plinth are base of the house is made of solid rocks or stone masonry. The house is supported on a random rubble stone masonry foundation. Basement of the house is made of stone in combination with wood.

Material of Construction:
It is completely made up of Deodaar, type of wood.

Roof:
The roof is made of wood. The logs are joined over one another in a random fashion. Farmer has made a small store area over the roof of the room which contains farming tools. The roof is not in good condition.

The farmer has kept wheat seeds in a wooden box of 5x5 feet in the veranda. The box has small opening in the bottom. A wooden log lies in the veranda hollowed from the centre to crush wheat seeds. It is 2.5 feet in diameter and 3.5 feet in height.
Grain Storage, opening at the bottom of the box

Farmer is using a log of wood which is empty in the centre for crushing wheat and corn seeds and making flour. Log of wood is made empty in the centre with the help of local made iron tools.

ii) Construction Two:
Jamia Masjid Hafizabad located at Hafizabaad (old name Mandu-Khal) and about 35 years old.

Description of Masjid:
It is a three story building 30x30 feet in size. The ground floor has two store rooms each having one door and one window. This Masjid is also used as Madrasa and a shelter for the local people during bombardment by Indian forces.

Veranda at Lower Storey:
It has 5x25 feet veranda. It is also used as a store. Six wooden logs are used as pillars. Veranda has two adjacent doors, one small and one big. It is half closed by applying wooden rafters.

First Storey of Masjid:
There is a wooden staircase to access 2nd story. The 2nd story has a prayer hall of 25x30 feet. Walls and roof the hall are made of wood. Width of the walls is 15 inches. It has one door, four windows and two cupboards. One wooden pillar exists in the centre of the hall. The metal heating structure lies in the centre of the hall to burn the wood for heating purpose.
Veranda of the 1st floor is 5x30 feet. It has seven pillars. The wooden grill designed in a geometrical pattern (rectangular shape) between each pillar surrounds the veranda. It is called lattice work, locally known as panjra kari. It is common in Kashmir. Small pieces of wood joined together with each other to make a design or a pattern.

*Lattice work locally known as Pinjrakari.*

This rectangular shape pattern is made by joining the wooden pieces together. 23 pieces of wood are being used in making of this rectangular pattern.

**Second Storey of Masjid:**
A ladder connects the first with the second floor. The second floor is used as a store. It is also used for prayer place off and on. Roof of the house is made of iron sheets and wooden logs.

**Mehrab:**
It is 6.5 feet high and 3.5 feet wide. Exterior walls of Mehrab are pasted with clay. Inner side is made of wood which has no detail. It is supported externally by three wooden logs each 4.5 feet long.
Material of Construction:
The Masjid is made of Deodaar wood, masonry stone and clay.

Exterior of the Masjid is combination of clay and wood. Front of the Masjid is pasted with clay and other three sides have wooden rafters. Veranda of the Masjid is a unique and interesting feature of the building.

iii) Construction Three:
This is located at Mohala Farasheyan near Nala Jhagraan, owned by a former, Muhammad Mehraan and about 45 years old construction.

Description of house:
This is a three storey building that covers an area of 30x40 feet. The plinth or base of the house is made of masonry stone. It is an old tradition in northern area. It has two verandas on both stories. It has five rooms and two washrooms.

Ground Storey:
Ground storey is for livestock. This story is made of wood and clay. It has three rooms each 10x12 feet in size and a surrounded veranda of 30x5 feet. Veranda has six arches in between nine pillars. It has a washroom which is not in use.
First Storey:
1st story has 2 rooms of 15x15 feet and 1 hall of 30x15 feet. It has 1 washroom. It has veranda of 30x5 feet which has five pillars and four arches. It has a main door of about 4x6 feet and three windows.

Second Storey:
Owner of the house uses this story for storing food for his family and the livestock. It has a big hall 30x40 feet in size.

Roof:
Roof of the house is totally made of wooden logs. These logs are deliberately arranged and joined together to prevent rain drops and snow. It is very common in northern areas.
Exterior of the House:
14 Arches of the wood exist in the exterior of the house. Six arches in the veranda of the ground storey and eight in the 1st storey veranda. Ground storey arches are different from the 1st storey arches.

All of the arches are the modified form of stilted arches (round arches). Lower storey has different set of arches than the 1st storey. Pair of pillars exists between the arches. Between these pair of pillars lattice work is done nicely.

Pieces of wood aligned together between the arches which make elegant pattern. These patterns are square shaped. 1st storey has more square shaped pattern than ground storey.

Lattice work is done nicely between the pair of pillars. Both sides of the wooden piece is cut in zigzag style and then joined together over one another which makes the shape of a square. Grill between the pillars is also made of these patterns. Grill of lower storey has large patterns.
Material of Construction:
This house is made of masonry stone, variety of wood and clay.

iv) Construction Four:
Located at Sathriyan and owned by farmer, Muhammad Afsa Baig and about 80 years old construction.
Description of House:
It is a three storey building that covers an area of 40x60 feet. This house is one of its own kinds in the small village of Sathriyan. It has three verandas, four rooms and two big halls. It is very old house but still standing at its pride. Two families live in this house. Small portion of the house was damaged before fifteen years in bombardment of the Indian Army which was recovered.

Ground Floor:
The ground floor has two rooms each 10x15 feet size and one big hall of 36x40 feet. The hall has a door of 4x6 feet size painted in three colours. It has L shaped veranda which is 5 feet in width. The ground floor is made of stone, wood and clay.

A door is present at the ground floor which is painted with three colours, yellow, green and red. Size of the door is 4x7 feet.
First Storey:
It has two rooms and one hall. The rooms are 12x15 feet in size having windows at the back side of the house. Hall is 36x40 feet and veranda is 5 feet in width. Veranda of the 1st storey is also L shaped. There is a single washroom in the house located in the 1st storey. Entrance of the washroom is from veranda. The exterior walls are cemented.

![Veranda of the 1st storey](image1)

![Front of the house](image2)

Second Storey:
It has a big hall being used as a store. It is 30x60 feet in size. Owner uses it for storing useless accessories of the house and food. It has one window at the back side of the house. Hall contains 2 large wooden trunks for storing wheat seeds. It has 7 feet wide veranda in the front. Hall has two windows and one door which opens in the veranda. Walls of the 2nd storey are made of wooden logs laid alternatively over one another, with the end joint dovetailed to one another.

![Veranda on the 2nd storey](image3)

Staircase:
The wooden spiral staircase connects the three floors. It is the master piece of the house.

![Staircase](image4)

This staircase connects the ground storey with 1st storey. It is rounded. It is made of wooden rafters. Beneath staircase space is used as a store. It has twelve steps.
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This staircase connects the 1st storey with 2nd storey.

Roof:
Roof is made of wooden logs. Wooden logs are also used as beams for the support of roof. More than 60 feet long log is placed in the centre of the roof which is supported by wooden pillars.

22 pieces of wooden blocks, each of 1x5 feet size, are arranged over one another to support the long wooden log from both ends.

Exterior of House:
L shaped veranda of the 1st storey has 24 arches, 13 small and 11 large. Small arches are Lancet and large arches are Tudore. Between these arches beautifully designed grill is placed.

5 ½ arches are covered with wood and cement for the washroom. Veranda of the ground story has 25 wooden pillars which support the verandas of 1st and 2nd floor.

The veranda of the 2nd floor has 16 wooden pillars. Between these pillars lattice work exists beautifully.
Right and back side of the 1st storey of the house are pasted with cement. Pillars are placed for the support. Different designs are made on the plaster of cement. These designs include flower shapes, circles, leaves and lines.

Two windows are located at the back side of the 1st storey and one at the 2nd storey.

Lattice work exists over the arches. It is the combination of wooden pieces which are carved in oval shape. By joining these carved pieces shape of a vas is formed.

**Lattice Work:**
Lattice work, locally known as Panjra Kari, was once very popular in Kashmiri architecture. The craftsmen dealing with wooden works used to fill the doors, windows, ventilators with jail screens formed of lattice work. It was the most complicated art and perhaps no less than carving or inlaying. The jail screens were formed of small wooden pieces finished very brilliantly and were then arranged in geometric forms so as to display their edges. These wooden pieces made of either Deodar or walnut wood. Most of the scholars believe that Panjrakari was introduced and promoted by great Mughals. It was initially used in Muslim Shrines. Almost all ancient Muslim shrines carry wonderful designs of intricate lattice work. From here it was adopted in common structures than it was followed strictly in Kashmir architecture.

Lattice work is done on wooden planks which are carved in rhombus, triangular and oval shaped patterns.

**Material of Construction:**
House is made of wood clay and cement. Exterior walls of the right and back side of the house are cemented. Wooden pillars are placed between the cemented walls.

2. **Wooden Construction at Leepa Valley:**
The beautiful wooden construction of Leepa Valley is very sophisticated comparatively. The uniqueness of wooden structures depicting the quality art of the craftsmen and the loyalty to the art can be comprehensible with the state of mind.

i) **Construction One:**
The Masjid (Col. Haq Nawaz Kiani Shaheed Jamia Masjid) is located at Nokot and about 60 years old construction.
Description of the Masjid:
It is a three storey building which covers an area of 66x45 feet. It has three big halls and one room. It has two verandas which have beautiful set of arches. It has seven minarets like structure at the roof. Staircases are built to access 2\textsuperscript{nd} and 3\textsuperscript{rd} storey. Villagers can pray in the Masjid in 8 rows. The Masjid has a combination of different decorative designs derived from different cultures and traditions. It is due to the location of the Masjid which is once used for the trade. People from different cultures used to meet here.

Ground Storey:
It has one room for Imam or Molvi of the Masjid. It has a big hall of about 55x38 feet in size. It has two doors. One door at left side of the Masjid is not in use. It has one window and two ventilators. Walls are made up of stone. Exterior of the walls are cemented. It has seven wooden pillars at back side of the Masjid.

Second Storey Hall:
It has only one big hall and a veranda. Hall is 64x40 feet in size and veranda is 4x64 feet in size.

Prayer Hall:
It is 64x40 feet in size and 8 feet in height has two doors and eight windows. Four windows are at front side of the hall, one at the left and one at the right side of the hall. Hall is fully carpeted in green colour.

A plank of wood which is 2x3 feet in size is adjust at the top of each door. These planks are carved in geometrical designs which look very beautiful at the entrance. This pattern is derived from Islamic decorative designs. It is widely used in Irani architecture.
Designs on wooden plank are carved in square, rhombus and rectangular shapes. Hall has three wooden pillars. Middle one is carved beautifully. It is also a large one among the others. It is also attached with beam like structure which is approximate 4 feet in length and 5 inch in width. Both ends of this structure are carved in acanthus style. Middle portion is carved in decorative designs. Year of construction of the pillar is carved in one of the motive. Lower side is carved in wheel shaped design which looks like the petals of the flower in a circle shape. This whole structure is totally carved beautifully with decorative motives.

It is carved with six lotus flower shapes. Three are inverse lotus flower shapes. These shapes are coloured in black and white. It has set of convex and concave engravings. Its diameter is 1 foot six inches.

This design is carved on the front and back side of the wooden log. It is a decorative design. Design is a combination of circular and semi-circular shape with motives of the flower and petals. This design is engraved four times on the log.

This decorative design is engraved on the lower side of the log. Motive used in the design is a wheel shaped which also looks like the petals of the flower in a circle shape. Wheel is a 1st invention of the world and is widely used in decorative motives especially in Gandhara Art. In gandhara art it is engraved on the stone.

Both ends of the log are engraved and carved in acanthus motive. Acanthus is a flower which is widely being used in decorative designs. It is most common in Gandhara Art and Egyptian Art.

In the praying hall three wooden pillars are supporting a big beam. This beam of wood is 66 feet in length. It is a trunk of a single tree which was more than 70 feet. Villagers selected this trunk of the tree in the forest for beam of the hall. Everyday villagers used to go in the forest and drag this trunk of the tree approximate ten meters. At last when they draged it near the village the local carpenter cut
its four sides and gave it a shape of the beam. Again villagers drag it into the praying hall. With ropes, wooden logs and rafters they adjust the beam at its place. This single piece of trunk of a tree which is 66 feet in length is the marvellous example of art and architecture. Now the beam and the pillars are painted in brown, black and white colour.

Left and right side of the log is painted in semi circled shape. Side opposite to the doors has one white semi-circle after every two brown semi circles. And the side opposite to Mehrab has all the brown semi circles with white background. Black colour is used as a contour line for every circle. Lower side of the log is painted in Ellipse shape with brown colour and black is used as a background colour.

Hall has one Mehrab which has trefoil arch. It is totally made of wood.

Interior of the hall is painted with geometrical patterns with different colours. These are circular, semi-circular, star shaped and petals shaped. A pattern is painted, which surrounds the upper side of the walls of the hall. It is the combination of Ellipse and circle.

Roof of the hall has 25 rows of beams which intersect the large middle beam of the hall.

It has two main doors which open in veranda and staircases are built to access the doors. Veranda has fourteen arches. Pillars or columns between the arches are beautifully carved and engraved in decorative motives. Most of the pillars have unique and different designs. They have circular, square, triangular, rectangular, semicircle like crescent, zigzag and decorative patterns.
This pattern is engraved on the pillar. It is the combination of V and inverse V shape.

This pattern is the combination of diamond shape and arrow shape. It is engraved on more than two pillars.

This pattern is the combination of square and L shape. It is a unique design. Pattern is engraved half inch on the pillar. Both ends of the pillar are carved in lotus flower shape. This motive is derived from the Gandhara Art.

It is a diamond shaped motive which is carved on the pillar. Five rows of this pattern are engraved on the pillar. Pillar is engraved with lotus flower on both ends. Lower end of the pillar has engraved decorative floral motive which is the combination of petals and leaves.
This pillar is engraved in dots. These dots are engraved on the pillar in a series of wavy rows. Five wavy rows are engraved on the pillar. Like all the other pillars it has lotus flower and decorative designs on both ends.

Above the arches series of Pinjrakari exists. This Pinjrakari is made by carving the wooden planks. It has different set of designs.

This pattern is the combination of petals and circles. Six petals are carved in a circular shape motive. This motive is common in Gandhara art and Egyptian art. It also gives the look of a wheel which is very common in engraving on stone or wood.

This pattern is also a combination of petals and circles. In this pattern two circles are engraved with petals one is small and other is large. Three motives are carved on the plank of wood. Between these three motives ellipse like shape is carved. This motive is also common in Gandhara art on stones.

This pattern is carved in zigzag style with the help of rectangular shape. Three rows of zigzag style are carved parallel on the plank of wood. Small blocks of rectangular shape are carved in a single row. If we consider only two rows it looks like a branch of leaves. This pattern is carved on the plank of wood which is placed on the arch. Right side of the arch is broken. Piece of wood is misplaced from the right side. Motives are engraved on the left and right side of the arch.

Small wooden pieces are joined together in this pattern. This makes this square and rectangular shaped pattern. All the wooden pieces are in rectangular shape. One motive has eight rectangular shapes. Four motives are made over the one single arch. This type of motif is common in wood architecture in this region.

This beautiful pattern is the combination of brick shape, square shape and triangular shape. One motif consists of four brick shapes, two triangular shapes and one square shape. Four motives are made in this pattern. Veranda has a grill which is 1.5 feet in height. Small pieces of wooden planks cut and adjust with each other which make a beautiful grill style.

This pattern is a combination of two ellipse shapes and one rhombus shape. Both sides of planks of wood are carved and then joint together to make these two shapes. These are not in same size and length. Some planks are broken too.
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This pattern is engraved on the pillar which is between the two arches. This pattern has ellipse shapes one after another. It is not in same size but engraved beautifully. This pattern is derived from Gandhara art.

This pattern of branch of leaves is engraved in the upper part of the pillar. Pillar is sandwiched between two arches. Wooden logs are placed at both sides of the pillar for support. These logs give it strength. Pattern of branch of leaves is carved beautifully over the pillar.

One of the main doors of Veranda of the 1st storey.

Second Storey:
Two staircases are built at both sides of the building on the 1st storey to access 2nd storey. It has one big hall, one Mehrab, five pillars and eight windows. Floor is not carpeted. Central beam is supported by five pillars. This beam is the combination of many logs of wood. It has two cupboards. It has four doors. One door is in use. Wooden planks are placed on the floor of this storey. It has no rows of beams. Veranda has same round shaped arches. Pillars are not carved or engraved. Over the pillars Pinjrakari exists. Wooden grill is paced between the arches.

Roof:
Roof of the Masjid is covered with iron sheets. It is pitched. Three minarets like structure are placed at the roof in the middle made with iron sheets. Loud speakers are adjusting with two of them. Four small minarets are placed at each corner of the roof which is made of wood.

ii) Construction Two:
Located at Nokot owned by a farmer, Malik Ghulam Ahmed and this is about 53 years old construction.
Description of the House:
It is a five storey building totally made of wood which covers an area of 45x60 feet. It has twelve rooms and two halls. It has five verandas on each storey. Base of the house is masonry stone. It has three washrooms. It has twelve balconies like structures. This house is made up of two types of wood, Kail and Deodar. Only one family lives in the house. No other house in the whole village is beautiful than this one. It is one of its own kinds. Owner of the house and his father Mohammad Malik (late) built the house with keen interest.

The house can be divided into two major portions at the front side. One is extended towards outside which has 12 set of balconies and the other is engraved portion of the house which has set of arches and pillars. 2nd portion has 18 set of arches. The house looks very artistic due to these two portions.

Ground Storey:
Base of the house is stone masonry. It has no balconies. It has three rooms. Each room is 12x16 feet in size. These are used for livestock and their food. It has 27 set of small and large arches. Small arch is built after every large arch. Large arches are Stilted (rounded) while small arches are Lancet (pointed). Some of the arches are kept closed by applying wooden planks on them. It has one washroom which is 6x6 feet in size.

First Storey:
It has three rooms and one washroom. Each room is 12x16 feet in size and washroom is 6x6 feet in size. It has a veranda at three sides of the house which is five feet wide and approximate 7 feet high. Veranda has twenty set of arches. These arches are stilted (rounded). Pair of wooden pillars exists between the arches. Pillars are 46 in numbers. Pinjrakari or lattice work is done between each pair of pillars. Wooden pieces are placed in zigzag style which makes a pattern of square. Some of the wooden pieces are broken or misplaced.

First storey has three balconies. Each balcony is 4x4 feet in size. The balcony which exists at the right side is closed by applying wooden planks in it. Pinjrakari exists in central balcony. Central balcony has also seven set of arches. Three arches at three sides are large which are stilted (rounded) and four arches are small which is Lancet (pointed). Pinjrakari or lattice work is done in small Lancet arches. The other two balconies are the same. Each have five set of arches – one large and four small. Large arch which is stilted is at the front of the balcony and four small arches which are Lancet are at both left and right side of the balcony.
1st storey has three windows at the back side of the house. It has one washroom at the right side of the house which is 6x6 feet in size.

Second Storey:
It has all features of 1st storey. Rooms and the sizes of the rooms are same. Veranda and balconies are same. Arches, pillars and Pinjrakari are the same as in 1st storey. Only difference it has is a kitchen which exists at the right side of the house. Size of the kitchen is 8x8 feet. It has also one washroom at the back side which is extended towards outside. It is 4x4 feet in size. 2nd storey has two windows at the back side of the house.

Third Storey:
Its most of the features are also same as in 1st and 2nd storey. Rooms, veranda, kitchen, washroom, arches, pillars are the same. The pattern of the Pinjrakari between the pillars is changed. These patterns are in diamond shaped, semi circled, blocked shaped and in zigzag style. Pinjrakari in the small arches of central balcony is also changed. Small pieces of wood are joined together to build a square and rectangular pattern. This pattern of balcony is totally different from the other zigzag pattern of balcony. Balcony is built at the back side of the house which is closed by applying wooden planks in it. It has same style of arches as at the front of the house. Roof of the 3rd storey is extended towards outside. Carved wooden pieces are placed at each corner of the roof. These pieces are joined together which makes a beautiful pattern. This pattern is the combination of diamond shape and a triangle.

Fourth Storey:
It has two big halls which covers an area of 40x50 feet. These halls are used for storing goods and food. This storey has a veranda at three sides but it has no arches. It has three balconies. These balconies are different from the other balconies in size, shape and style. They have no arches. Roof of the balconies are covered with iron sheets. House has a pitched roof which is made up of iron sheets. This storey has a small balcony at the back side of the house. It is closed and not in use. This storey has one window at the back side which opens into the hall.
iii) Construction Three:
Located at Chania bazaar, owned by farmer Nazir Ahmad Rathar and this is about 47 years old construction.

Description of the House:
It is a three storey building. It covers an area of 30x30 feet. It has ten rooms. This building has seven windows and ten arches. Both sides have two arches while front has six arches. It has a shingles style roof which is not common now a day. It has two washrooms and one kitchen.

Ground Storey:
This storey has four rooms which are 10x12 feet in size. Two rooms are used as a shop. Shopkeeper is not the owner of the house. Rest of the two rooms are used as a store of the shops. It has a small veranda of about 5x10 feet in size. It has also a washroom which is 5x5 feet in size at the right side of the house. A wooden staircase exists at the ground storey to access 1st storey.

This circular wooden staircase has 8 steps. A door is placed at the start of the staircase. Door is built with wooden planks. Four pieces of wooden planks which are 2.5 feet in length and 3 inches in width are attached to the wooden planks of door for support in ‘X’ shaped.

First Storey:
It has four rooms. Each room is 10x12 feet in size. it has a washroom which is 5x5 feet at the right side of the house. it has a kitchen which is 6x6 feet at the left side. Veranda of the 1st storey is 5 feet in width and 20 feet in length. Roof of the veranda has 18 beams of wooden logs in rows. It has two main doors which open in to rooms. Wooden circular staircase is built to access this storey of the house. Owner is living with his family in this storey.
It has four windows – two in the left side and two in right. Ventilators are made over each window. These ventilators are covered with Iron net. Wooden frame is placed on the net for support. Each window is 2.5x3.5 feet in size. Ventilators are 2.5x2.5 feet in size.

Ten arches are built in the veranda. Two arches at the left side, two at the right and other six arches at the front side. Two arches of left side are closed by applying wooden rafters. Style of the arches are Stilted (rounded). Between the arches pair of pillars exists for support. Between the pair of pillars small wooden pieces which are carved in different patterns are joined together. It is called Pinjrakari or Lattice work. These patterns are circular, semi-circular, triangular and zigzag. This Pinjrakari is not in good condition. Between the pillars two wooden rafters are joined over one another which are used for the safety purpose in use of grill. Each rafter is one foot in width and 3.5 feet in length.

Two arches at the right side of the house.

1st storey has stilted (rounded) arches and pair of pillars between two arches for support. Lattice work or Pinjrakari is done nicely between the pillars. Lattice work consists of different patterns. Patterns are Semi-circular, triangular and zigzag. Some of the motives consist of circular and triangular shape. A wooden rafter is placed over each arch. Lower end of the rafter is carved in zigzag style.

Lattice work is done between the pillars by joining different shapes and sizes of carved wooden pieces. In the above lattice work two geometrical shapes are combined which are square and triangle. By joining these shapes a motif is created which is shape of two arrows. Head of both the arrows are joined together.

Second Storey:
It has two rooms which are 12x16 feet is size. These rooms are used as a store by the owner. To access this storey small ladder is placed at the right side of the house. These rooms have walls made up of wooden rafters but they have no roof. Roof of the house is the only roof over these two rooms.

Roof:
Roof of the house is pitched. Gable of the roof is kept open for ventilation purpose at both left and right side. It is made up of wooden logs and rafters. Floor of the top storey is made of thick timbers to create a secure structure that could be supporting several tons of logs or securing food. Both sides are well
Conserving Wooden Structure of Neelum and Leepa Valley, Kashmir

ventilated to provide good air circulation around the stocked logs. Roof is supported by the diagonal bracing of wooden logs.

Top of the roof is covered with shingles. It is traditionally been used for roofing. It provides long lasting weather protection and rustic aesthetic. It requires more maintenance than other more modern weather proofing system. Shingles are the small pieces of wooden rafters which are not very thick but when they are joined together, overlapping on each other, they formed a complete roof.

Another unique feature of the roof of the house is Margalay (Shade-leer). These are used for decorative purpose. These are hanged with the roof at each side. Hundreds of Shade-leers are used to decorate the roof of the house. These are hanged with the roof with the help of wire. This feature does not exist in any other house in the village. It makes the house more elegant, beautiful and artistic.

iv) Construction Four:
Located at Ghaipura, Jam-e-Masjid Ghaipura, about 40 years old construction.

Description of the Masjid:
It is a one story building which covers an area of 30x20 feet. It has one door and four windows. It has a veranda which is 15x5 feet in size. Maximum portion of the Masjid was destroyed by the bombardment of Indian army. Than Masjid was rebuilt but some portions of the old building were placed in the new building. These are engraved wooden planks, old pillars and arches. Beauty of the old portion is the only reason of placing them in new building. These are fully carved and engraved with different patterns and motives. It has one praying hall which is 25x18 feet in size and one Mehrab. Base of the Masjid is stone masonry. It is the fine example of Kashmiri architecture which is very rich in carving and engraving.

Praying Hall:
Masjid has one praying hall which is 25x18 feet in size. It has one main door which is 3.5x6 feet in size. It has four windows which are modern style. These have fitted glass and walls of the Masjid are made of wooden planks. Mehrab of the hall is totally made of wood. Inner roof of the Masjid has series of rows of wooden beams.

Roof:
Masjid has a pyramid shaped roof. Roof is covered with iron sheets. Unique style of Shade-leer is attached at each corner of the roof. Different styles of Shade-leer are hanging with a unique styled
wooden structure. At the top of the roof wooden box is placed in the middle which is covered with iron sheets. In this wooden box loud speakers are placed. One little minaret is also placed on the box. It is made of wood and beautifully carved.

Different styles of Shade-leer are hanging with a unique styled wooden structure.

**Exterior:**
Masjid has six set of arches. Five of them exist at the right side and one arch at the back side. Five arches are placed at the right side and only one arch is placed at the back side of the Masjid. All the arches are closed due to the wall of the Masjid which is made of wooden planks. Tudor style is used in all arches. Tudor arch is pointed arch having big span at the bottom. Seven pillars are supporting these arches. These pillars and the arches are the part of old destroyed Masjid. These are totally engraved and carved with beautiful motives and patterns. These patterns and motives are different on each arch and pillar. Each arch consists of three wooden planks which are cut in arch shaped and then engraved with motives.

These pillars and the arches are the part of old destroyed Masjid which are totally engraved and carved with beautiful motives and patterns.

This arch has engraved set of floral motives. At the Upper plank of the arch petals of flower is engraved nicely in circular shape. Each flower has nine petals. This motif is repeat in six times. Rest of the arch has motives of flower petals in circular shape. Two pillars at the both sides of the arch are carved in geometrical and floral designs. Geometrical design is the combination of rectangle and square. While floral design has petals of flower and leaves in circular shape.

Upper plank of the arch is engraved with floral motif. This motif is repeated in six times. It consists of petals of acanthus flower which is derived from Greek and was found in Gandhara art too. It is a traditional design. Rest of the arch has combination of floral motives in circular shape. Two pillars at the both sides of the arch are carved beautifully in floral and geometrical design. Geometrical designs consist of rectangle and square – square four rectangles. Design is repeated in seven times. Second pillar has nice floral design in circular shape. It has also combination of + sign. At the top X shape is engraved two times.

The motives engraved on this arch are geometrical and floral. Upper plank of the arch has set of geometrical motives. It is the combination of rectangle and square. Two rectangles are engraved on upper side, two on lower side, two on left and two on right side. In the centre of these eight rectangles four squares are engraved. And at the corners set of four squares are also engraved. Motif is repeated in six times. It is derived from Islamic art. Rest of the arch has combination of floral motives. It consists
of petals of the flower in different sizes. Pillars in which arch is enclosed are carved beautifully in floral and rectangular pattern.

This pillar has a motif of wheel at the base. Wheel is the 1st invention of the world and it is very common in motives of different civilizations. It is also in Ghandara art. It is the combination of triangles. Over the base motif of lotus flower which is derived from Gandhara art is carved on the pillar beautifully with full detail. Centre of the pillar is carved in rectangular brick with the combination of zigzag lines. Inverse lotus flower is carved over the brick motive. Rectangular shaped brick is carved on the top of the pillar. The motif is carved in two straight lines.

This pillar has a motif of star at the base which has a circle in the centre. Over the base motif of lotus flower which is derived from Gandhara art is carved on the pillar. Centre of the pillar is carved in zigzag style randomly. Over the zigzag style motif of inverse lotus flower is carved. The top of the pillar is carved in floral motives which is the combination of petals and leaves.

Over the arches three logs of wood are placed over one another as a beam. These three logs are 30 feet in length. These logs are also totally engraved with decorative motives.

Engraved motives on the wooden logs are visible. The log at the top has semi-circular motif with engraved petals of flower. Middle log is wider than the other two and it has a motif in vas shape. It is also X shaped motif. Lower log has floral motif in circular shape. It is like petals of the flower – combination of circle and oval shape.

Lower motif is like a branch of leaves.

The beams which are supporting the roof are more than twenty feet long, one foot high and four inch wide. Fourteen beams are intersecting each other. Seven beams are placed left to right and seven are placed front to back side. Beams are extended towards outside at each side of the Masjid. End of each beam which is extended portion of the beam is carved beautifully. These are carved like petals of the flower. This design was introduced in Gandhara art, Room and Greek. This design is called acanthus. The acanthus is the plant and a form for foliage ornament and decorative motif in architecture. Four corners of the roof have also this wooden structure which is carved in acanthus motif.

Extended portions of the beams.
A wooden rafter is placed between each extended portion of the beam which is one foot in height and 3.5 feet in length. It is also carved and engraved in different motives and shapes. Some are carved in geometrical design and some in decorative motives.

CONCLUSION
Wooden architecture in Neelum valley is different with the architecture of Leepa valley in style of architecture, material of construction and carved motives. The information collected gives the understanding that Neelum valley is much larger in area than Leepa valley. Majority of wooden houses walls at Neelum valley are made with stone. Leepa valley wooden houses were mostly made of clay and wood but a few were constructed with stone walls. Roofs of the most wooden houses in Neelum valley are made of Iron Sheets because the generally of these houses were renovated. At the other hand houses of Leepa valley have wooden roofs – made of rafters or planks of wood. It is concluded that in Leepa valley wooden architecture is very rich in decorative motives. Some of the houses and Masjids have very beautiful Pinjrakari and mind blowing carving on pillars and arches. Motives and decorative designs are derived from different art forms of civilizations such as Egyptian, European and Gandhara. Lotus flower of Gandhara art is widely used in beautifully carved or engraved pillars and arches – commonly used in wooden houses and Masjids in Neelum and Leepa Valley, Azad Jammu & Kashmir will provide new knowledge in the world of heritage. These areas are very rich and have potential of further research and this research will the reference for further investigation. These wooden constructions are our cultural and traditional values and need to be protected in the original shape – government need to have stepped forward to conserve them. To prevent these constructions from the natural hazard is the only medium to transfer heritage to the generations to come.

REFERENCES

WEBLINKS:
http://www.koausa.org/Crown/history.html/
http://hinduism.about.com/od/history/a/Kashmir-Paradise-Lost.htm
http://en.wikipedia.org/wiki/Neelam_Valley/