

Investigating the influence of globalization on the architecture of Oraon ethnic community in Patnitala, Naogaon, Bangladesh

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Abstract— This paper has discussed how the architecture of the houses of Oraon ethnic group transformed with the course of time. Oraons came in Patnitala, Naogaon from Rachi, Jharkhand India. From census of 1891 there have been only 776 members of Oraon tribe. Now a few clusters of families live in Patnitala Naogaon. They live in plain land usually. They used to employ traditional techniques to build their houses which they can avail locally. Their architecture could be termed as Oraon Vernacular architecture. Their houses evolve around a court. Mud wall covers the perimeter. Functional spaces like bedroom, kitchen or space for cattle spaced chronologically around the court. Roof used to make out of thatch. They nurtured the craftsmanship through experience and years of trial and error. Though the basic architectural layout has not been changed drastically but materialization changed through the availability of tin sheets and other building products. This is a significant impact from globalization and penetration of modern building materials..

Keywords: Oraon vernacular architecture, traditional techniques, modern materials, globalization

1 INTRODUCTION

Rapid growth in urbanization and technological progress have resulted more standardization of built environments, which infiltrates with human habitats erasing cultural and contextual identity [1]. Adivasi or indigenous housing technologies in Bangladesh have been transmitted through generation to generation. This traditional or indigenous knowledge basically takes into account the available materials, local climate, and cultural values as they are in close association with nature. This traditional housing knowledge is shaped by the importance of their cultural norms, religious beliefs and rituals, religious events, building technology and procedures in the context of how they spent their everyday life and where they do their daily tasks. But with the rapid growth of modernization and globalization, indigenous housing technology is also keeping pace with this transformation. New patterns and styles of vernacular architecture has emerged driven by globalization and availability of technologically advanced materials. The following study deals with gaining knowledge, perceptions, and understanding from the Oraon dwellers about the changing architectural dialogue in terms of materialization and to fulfill the missing links from previous studies on them.

2 METHODOLOGY

The paper is mainly based on primary data that are collected by doing field survey and taking interviews from people of the Oraon community who lives in west Ushthi village, Patnitala, Naogaon, Bangladesh. But for the secondary data, a thorough literature study was made at the beginning to fulfill

the data gap, which made the field survey more fruitful and secondary data were also collected using sources like- government records, historical records, survey records, census reports, and relevant internet websites, books, published and unpublished articles. The field survey was conducted in different stages. For understanding the geographical and social context of the settlement, a thorough expedition was conducted and a social/ community map was constructed from the expedition. A set of questions were prepared for interviewing the Oraon tribe people. For 2 days 50 house hold people were interviewed in the Oraonpalli and a random and purposive sampling procedure was made to collect information. Informal interview, semi-structured interview and in-depth discussions were conducted. The approach of the questionnaire was both open and close ended and encompassed the following parameters:

- i. Formal expression and zoning of a dwelling unit
- ii. Construction material and structural features
- iii. Cluster organization & details (circulation, service etc)
- iv. Settlement pattern & placement
- v. settlement expansion
- vi. Changes in construction material

The pragmatic findings from the discourse and study will help to understand Oraon architecture and its transformation through time. This study would definitely assist one for study further.

3 ORIGIN OF 'ORAON' ETHNIC GROUP

The Oraon tribe who are also known as Kurukh, by the name taken from their hero-king Karakh[4]. Oraon are an ethnic group inhabiting in different Indian states. Major states are Jharkhand, Odisha and Chhattisgarh. It is believed that Oraons are have settled in the Chotanagpur plateau in India centuries ago. During the British period many of the Oraons migrated to North east India and Bangladesh [2]. They now live mostly in the districts of Kurigram, Nilpharmari, Gaibandha, Lalmonirhat, Rangpur, Dinajpur, Joypurhat, Bogra, Rajshahi, Naogaon, Natore, Chapai Nawabganj, Gazipur, Habiganj and Maulavibazar.

They predominantly speak Kurukh as their native language, which belong to dravidian languages family. Traditionally, Oraons depended on the forest and farms for their ritual and economic livelihood, but in recent times, a few of them have switched their profession. Many Oraon have migrated to tea garden of Assam, West Bengal and Bangladesh during British rule.

4 DESCRIPTION OF THE 'ORAON' SETTLEMENT

The goal of this study was to find out the prominent architectural features and its gradual change through time of the Oraon settlements in Naogaon, Bangladesh. For that a traditional Oraon settlement in the plain land Naogaondistrict was selected. The settlement was situated in PashimUshthi village, PatnitalaUpazila under Naogaondistrict having 25°02'48.0" N latitude and 88°39'19.0"E longitude. Climate here is tropical monsoon. In fig. 1 the selected site is shown.



Fig. 1: Patnitala, Naogaon survey site

4.1 SETTLEMENT PATTERN

In PashchimUshthiOraon settlements are clustered closely. All the houses almost adjacent to another. Narrow access roads connect all the houses. Road width merely crosses 3' at some points. There are almost 50 houses in one cluster as shown in fig2.



Fig2: On site study and mapping of the housing

These clusters are situated beside a primary road. These clusters are generally formed alongside a water source, for example pond or tube well as shown in the fig3. However the pattern of the cluster depends on its site context and geographical situation. All the houses are in rectangular shape.



Fig3: Tube well & pond near the settlement.

4.2 SETTLEMENT PATTERN

The Primary access road in the cluster has a east west orientation and the houses alongside this road are arranged in north south orientation. Surprisingly the houses not always face north-south. They are settled as they acquired the space for the house. The houses are very close to each other leaving a very small spaces in between the houses. These houses hold one small court inside them. All the functional evolve around the court. The built form sometimes comprises two stories but most of the time it is one storied pitch roofed houses. The roof height is very intimate.

4.3 PERIPHERAL BOUNDARY

No peripheral boundary has been put on around the houses and cluster. A semi outdoor shaded spaces works as a balcony and entry lobby as shown in the fig4. This space is used as a pavilion and to keep the sheep's in a fenced space. The pavil-

ion is used for social gathering and meet up. A singular entrance carved through the wall at the inner side of the pavilion. Surprisingly no common court were seen in the settlements.



FIG4: Semi outdoor balcony space

4.4 POLICY AND FUTURE EXPANSION

Oraon people lives in a single cluster of 40-50 houses. For future expansion they build rooms around the court in their old houses. In Oraon family sons get the property or land. Women cannot inherit any properties.

5 PROMINENT FEATURES OF 'ORAON' VERNACULAR ARCHITECTURE

Oraon dwellings has its own significance. Their architecture has a resemblance to their economic condition. The salient features also describe their choices of materials and their availability in the region. Oraons architecture pattern explains their lifestyle and activity. The centuries old living pattern is affected by the continuous penetration of modern materials.

5.1. BUILDING FORM (MASSING)

Basic shapes of the houses are rectangular. Square houses are not seen usually. Dimensions of the houses vary from 18'x 24' to 36' x22'. All the houses consist of a internal court. The court size varies house to house. Spaces are arranged Walls are made of thick mud. Roofs are usually made of straw thatch. Rooms inside house are relatively small. The house accessed through a single door towards the court. That door usually kept close for security purpose.

5.2. STRUCTURAL FEATURES

5.2.1. ELEVATED PLINTH

Oraon people build their houses on a raised plinth. They raise the height of the plinth in between 8"-12". Above this plinth they build their house with mud wall. This raise plinth is made of mud. Oraons later polish the mud surface with net. The plinth varies height in-between the spaces with functional needs.

5.2.2. ROOF

The roofing system of the houses is double pitched roof. Straw thatch with bamboo post is used as the roofing material. Generally, bamboo beam is used in the roofing structure. The space at the loft in the beams inside the house is used for storing daily utilities. The height of the top post is 10-12 feet and the other height is 6.5-8 feet. In figure 8 the section of the roofing material is shown with other structural elements like wooden posts, bamboo posts, etc.



Fig5: Roofing material of the houses.

The roofing system is climatically useful for the Oraons. The pitch roof drains out the rain water during heavy rainfall during the monsoon. They make this roofing system for years, traditionally. The straw thatch is replicable and easily found in the region. But these days material like tin or corrugated sheets are replacing the traditional approach of building the roof.

5.2.3 WALL

The most common material for Oraons for wall is mud. Thick mud wall encompasses the house periphery as shown in fig6. There is no use of bamboo fence in the house except some support member. Traditionally Oraons inherits this craft for centuries. They build the houses with large mud blocks. For windows and doors, they use wooden beams to support the vertical load. And mud is cost friendly for them and easy to collect.



Fig6: Thick mud is used for erecting the wall

5.2.4 FENESTRATION (SIZE, MATERIAL, POSITION)

The windows are comparatively small. Dimension of the window is 1'6" x 1'6". The entry wall of the house does not have windows most of the time but some time they put one window on the entry wall. Windows are made of wood and bamboo as depicted in fig7.



Fig7: Windows made of bamboo.

The doors are made of wood. Height of the door is 6'-6.5'. Width is around 30". Wooden frame encompasses the door. Zig-zag patterned panel works as door flush. There is only one approach door through the entrance semi outdoor space. And

only the rooms inside the house have doors like that. Sometimes they paint the door with floral pattern. For security reason the doors are small. A typical elevation can be seen as shown in fig8.

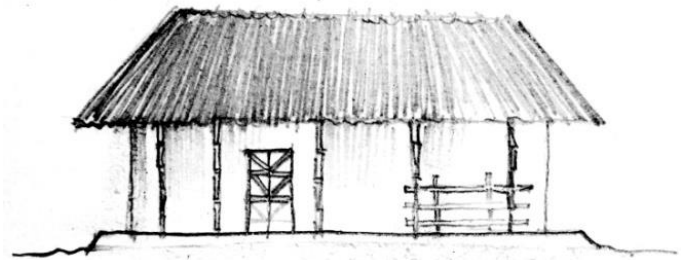


Fig8: Typical Elevation of a Oraon house

5.2.5 STRUCTURAL MATERIAL

All the materials used to build the Oraons houses are locally found. They use mud for the wall. Mud is used after mixing with straw. Straw is used for thermal comfort. Mud wall works as a load bearing wall. Roof structure is made of bamboo. Both solid and sliced bamboo used for purlin and rafter members. Wood use is merely scene in this scenario.

5.3 ZONING AND FUNCTIONS OF THE BUILDING FORM

5.3.1 ZONING

The zoning, functions and section of the building form spaces are shown in the fig9.

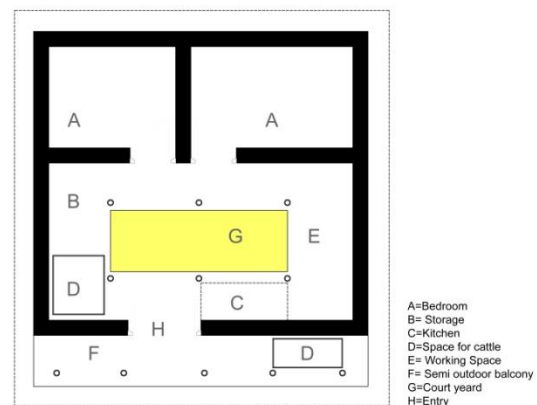


Fig9: Zoning and Plan layout of the Oraon dwelling

The houses are typically in north south orientation. Though not always they set up north and south it depends on the land as well. House is approached through the wall which is faced towards the road. The functions are arranged around an internal court. There are two bedrooms at the east side of the court. In the west side of the court there is the entrance and the

kitchen with mud burner attached in the ground as shown in fig10.



Fig10: Clay cast mud burner

At the north- east corner there is a space sheep keeping. This is a fenced space with a height of approximately 4'. At the south east corner there is space for working with a sewing machine. And the south side is occupied with storage. At the north there is usually shelf for keeping clothes or goods. But the house we surveyed is occupied with readymade Almira.

At the central court there is a tree and a small praying space. They put a "Tulshi" (Holy Basil) tree on a small staggered platform in that space.

5.3.2 SERVICES (KITCHEN & TOILET)

Kitchen is placed within the house. This is not a room in the house. The kitchen is kind of a semi open space beside the court. Sometimes the kitchen is housed in a room. Kitchen dimension is 4'x6'. Oraons use mud ovens blend into the ground. They use firewood as fuel. Kitchen side wall is separated from the roof.

Oraons does not have any attach toilet in their houses. Their concept of using toilet is primitive. They do not have any kind of formal set up for using toilet. Most of the time they use pond side or road side spaces for that purpose. After doing it they use to cover it by mud or leaves. Though a few NGO's has built 2 kacha toilet in the cluster zone. Nobody use that facility and few materials has been stolen from that facility as well. For taking bath Oraon people uses the ponds.

5.3.3 WORKING ZONE

The open semi open space at the approach way is the family gathering zone for the Oraon houses. By profession Oraons are primarily depends on agriculture. However, there are other occupation they are involved in like weaving, fishing, blacksmithing, crafting and blacksmithing. They raise cattle in almost every household. In the family gathering space they do

crafting and weaving. At that space they raise cattle in a fenced space in one corner. They raise domestic animals like sheep, cow and chicken. Sometime they use the front yard for working with bamboo and net weaving.

5.3.4. RELIGIOUS SPACE& DECORATION

Oraon believes in one spiritual supreme being [5]. They do not have any written scripture [3]. Few of them converted to hindu and christian. They have a Tulsi tree inside the courtyard and do their rituals. They also have separate temple for the community where they pray their prayer as shown in the fig11.

For decorating their house Oraon people use color on the wall. They put floral and another organic pattern on the wall.



Fig11: Temple in the Oraon cluster

5.5 ECONOMIC INFLUENCE ON THE SETTLEMENTS

Oraon locals are mostly poor. They face difficulties to bear the expenses of food, cloth, shelter and education. Though they live through a tough condition their cost of construction of a house is low. As they use local and cost-effective material like bamboo and mud.

6 INFLUENCE OF GLOBALIZATION

The field survey was conducted in PashimUshthi village, PatnitalaUpazila under Naogaondistrict. The settlements of the Oraon people are in a flat land. The houses were built with mud and thatch roof. Because of the globalization and upgrading modern structural techniques oraon people are adapting new methods and structural material. As the tin sheet is easy to find at the market, it is replacing straw thatch as shown in the fig12. Cement sheet is also getting popular day by day.



Fig12: Tin sheets are used for roofing

Their peripheral walls were built with thick mud. But in some portion tin sheet is being used. They have electricity in their homes. In some homes, solar panel is also used. These facilities surely made their easy.

New construction materials are penetrating the traditional system of construction. This to some extent might put a contribution to modernization but oraon people are losing their craftsmanship and their traditional identity. The unique character that they have with their settlement, its visual impression is degrading.

7 CONCLUSION

From the above study it can be seen Oraons had a very traditional approach to build their architecture. Structural materials were locally found and most of them are zero carbon energy material. The way Oraons carry out their living pattern for generations, it has a minimum impact on the environment. The architectural style also represents the root of the Oraon ethnic community. Globalization and penetration of modern materials erasing the identity and the characters of their houses. New material consumes less time to construct and they are found readymade. As a result, the old traditional craftsmanship is being eliminated from the architecture scene. This study should be analyzed before designing any kind of Oraon features which demonstrates the living pattern of that community. The field and literature study done with direct observation on the Oraon architecture of this paper can be utilized in future, evaluating the changes of architecture because of globalization.

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