Use of Wall Materials in Broad Region in Rural India: A Regional Analysis

Seema, Assistant Professor. Guest Faculty,
Dept. of Geography, **Jat College, Rohtak**

Abstract

India is a union comprising of 28 states and seven union territories. As per 2011 census, it has 640 districts. The total rural households are 16.78 crore in India.

A huge disparity is exit in the use of wall materials among different states and broad regions. In the present paper an attempt has been made to analyzed the distribution of dwellings and use of wall materials in rural India. The environmental and economic conditions of the people are reflected in the use of building materials. Generally, the houses in a rural set up are built by using materials available locally. The use of wall materials differs significantly due to physiographic and climatic conditions of the region in India. For the present research work 2011 census household data has been used. Census of India has classified wall material used for residential houses into ten types like Burnt Brick, Mud / Un- Brunt bricks, Grass /Thatch/ Bamboo, Stone packed with mortar, Stone not packed with mortar, Concrete, Wood Plastic/ Polythene, GI/Metal and other materials in rural India

It is recorded that the maximum houses are made of (40.03 %) Burnt brick, followed by Mud/Un-burnt brick (30.46%) Grass/thatch/Bamboo (11.90 %), Stone packed with mortar (10.04%), Stone not packed with mortar (3.64 %), Concrete (1.73 %), Wood (0.76%) and G.I/Metal Asbestos Sheets (0.46%) in rural India.

Further, it is observed that 73.68 % total houses have used Burnt bricks in North Western part in rural India. The burnt bricks have traditionally been used as wall material in North Western followed by Northern part (43.65%) and Eastern part (36.67%) in rural India in 2011. On the other hand Mud/ Un-Burnt bricks are maximum used by 37.20 % in Eastern part, followed by 36.02%, Northern part, 30.94 % Western and 23.48% Southern part. While the wall of the houses (63.97 %) in North western part are made of Grass /Thatch/ Bamboo. Stone packed with mortar used in Western (12.06%) and Southern (21.63%) part in rural India. Only 7.56% houses have used different sources of wall like, Stone not packed with mortar 3.64 % , Concrete 1,73%, Wood 0.76% and G.I/Metal Asbestos Sheets 0.46% ,polythene/ plastic 0.33% and any other materials 0.64% in rural India as per 2011.

Finally, it is suggested that more attention should be given by the government to improve the use of wall material particularly in north eastern and eastern part in rural India.

Key Words: **Liveable, Dilapidated, Brunt Bricks, Mud, Grass/Thatch/Bamboo/Stone/Wood.,**

Introduction

House is a social concept, its nature and cognition varying with caste, class, religion and region.(Unni, 1965). A holds a most significant place in the geographical hierarchy of phenomena, reflecting the cultural heritage of the people who build them in the region (Dickenson: 199-206).The basic geographic phenomena is meant to include “not only the dwelling house, ranging from the humblest huts of a poor to the most elaborate and massive city mansions, but all other human structure as well, where people congregate or where their grains are stored, such as schools, factories, warehouses, churches and stores etc.” (Finch and Trewartha 1964). Environment and economic conditions of the people are reflected

in the use of building materials. Generally, the rural dwellings depend upon the availability of local building materials, the soil, the vegetation, etc. The rich and well-to-do people generally build their houses of burnt bricks or stone while the poor class lives in mud walled and tiled or thatched roof houses. The function and utilization of houses is a very complex structure showing disparateness and distinction at several levels of man–to-man, man-to-technology, man –to-economy and man –to-land relations of the culture. In India "the geographical factors did not have an important deterministic influence on the nature of house" (Unni, 1965). The main deterministic coordinates structures the nature of houses are resources available to the society-cultural traits, traditions and economic levels. A house is one of the three basic needs of the mankind. Its importance varies in various climatic conditions yet the basic need remains more or less the same, as it provides shelter and protection from the rigours of climate. The word has been used as a synonym for census house, which is defined as, "a building or a part of a building having a separate main entrance from the road or common courtyard or staircase, etc., used recognized as a separate unit. It may be occupied or vacant. It may be used for a residential or non residential purpose or both (Census of India, 2011). transformed. Chamar (2002**)** studied the distribution of rural dwellings, their types based on size, functional characteristics, building materials and house plan in Bhiwani districts.

Source of Data and Research Methodology

The 2011 census data has been used for the present research work. The data in respect of rural houses and uses of wall materials have been used. The wall materials like Burnt Brick, Mud / Un- Brunt bricks, Grass /Thatch/ Bamboo, Stone packed with mortar, Stone not packed with mortar, Concrete, Wood Plastic/ Polythene, GI/Metal and other materials in broad region level in proportion to total rural houses have been calculated in per cent in India. The study area has been divided into seven broad regions, viz; north western, northern, eastern, north eastern, western and southern and islands as demarcated by Ahmed. Finally, the diagram has been prepared with the help of choropleth method.

Study Area

India is a country of great geographical extent. It sprawls from the snowy range of the Himalayas in the north to the shores of the Indian Ocean in the south. It belongs to Asia which is the largest continent of the world. With an area of 32, 87,263 sq kms., it extends from 8º 4' north to 37º 6' north latitude and 68º 7'east to 97º 25'east longitude. India is a union comprising of 28 states and seven union territories. It has 640 districts as per 2011 census, out of which nine districts have nil rural population. The total population of India is 121.05 crore which resides in 24.94 crore households. Out of the total population in the country 68.85 % population lived in 67.57 % households in rural areas and 31.15 per cent in 32.43 % households in urban areas.

Factors Affecting House Types

The landform and location environment are responsible for the variations of house types in different parts of the world. These are physical and cultural factors as follows: Relief of the Land and Slope, Climate, Ease of Water Supply, Building Materials, Economic condition, Social and Religious Tradition, Administrative Law ect.

Factors affecting the use of Wall Materials

The environmental and economic conditions of the people are reflected in the use of building materials (Singh, 1957). Generally, the houses in a rural set up are built by using materials available locally. However, affordability may produce exceptions in the afore-mentioned rule. If the owner of a house can afford to bring materials from other areas, by bearing the cost of transportation and the materials, he may construct his house of choice, not restricted to locally available material. The use of wall materials differs significantly due to physiographic and climatic conditions of the region in India. Besides that; Literacy rate, Levels of educational attainment, Income level, Percentage of population below poverty

line, Government's policy vis a vis financial assistance/ loans are some of the important factors which have controlled the housing quality and the materials used for wall in particular. It may be noted that Census of India has published detailed data on materials used in constructing residential dwellings. Census of India (2011) has also classified wall materials used for residential houses into nine broad types; Burnt Brick, Mud / Un- Brunt bricks, Grass /Thatch/ Bamboo, Stone packed with mortar, Stone not packed with mortar, Concrete, Wood Plastic/ Polythene, GI/Metal and other materials.

Material of Wall Used in Rural India

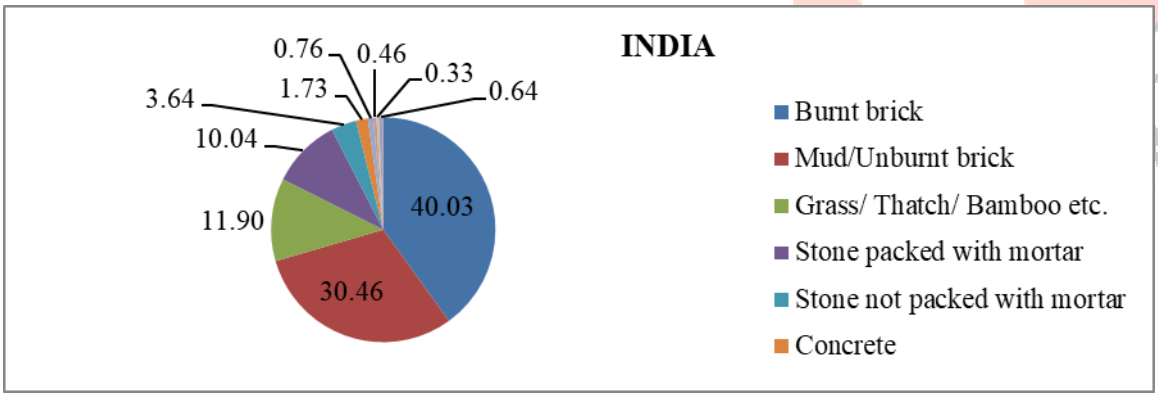
About 92.50 % houses used four major types of wall materials name**ly,** burnt brick, mud/unburnt brick, Grass/thatch/bamboo etc. and stone packed mortar, in rural India.

Table No.1: Major Wall Materials Used in Rural India,2011

Sr. No.	Wall Materials	Number of Household	(%)
1.	Burnt Brick	67207796	40.04
2.	Mud/Un-burnt Brick	51137614	30.46
3.	Grass/Thatch/Bamboo etc.	19980574	11.90
4.	Stone Packed With Mortar	16862328	10.04
10	Any Other Materials	12685979	7.56
	India	**167874291**	**100.0**

Source: compiled by Author.

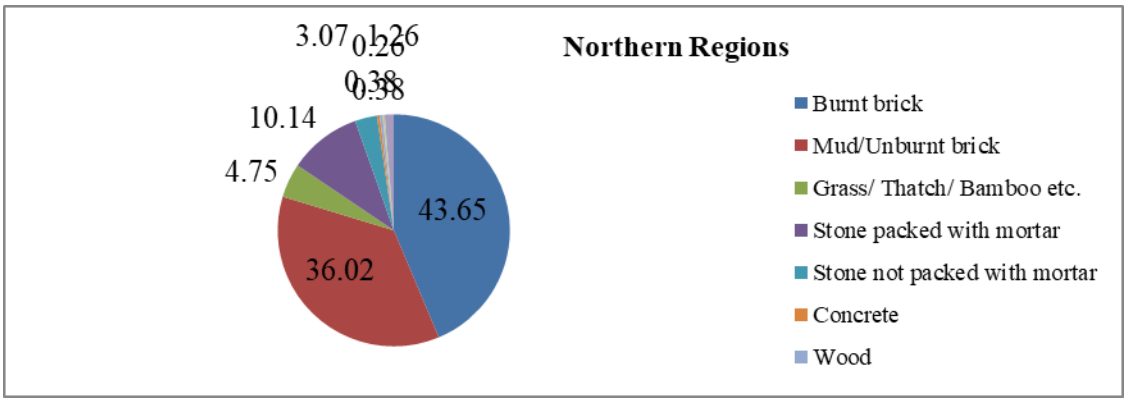
It has been observed that 40.03 % of the houses in the study area have used burnt brick as wall material. On the other hand, the proportion of houses using mud/unburnt brick as wall materials was 30.46 % in rural India Diagram (1.1).



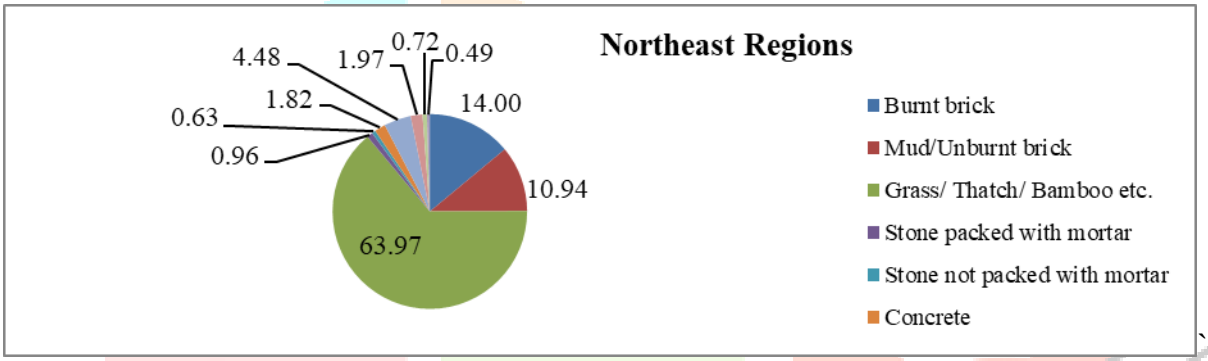
The houses using grass/thatch/bamboo etc. as wall material accounted for 11.90 % in the study area. Stone packed with mortar as wall material has been used in 10.04 % of the houses in the rural India. On the other hand any other materials houses using as wall materials accounted for 7.56 % in the study area.

Region- Wise Used of Wall Materials in Rural India

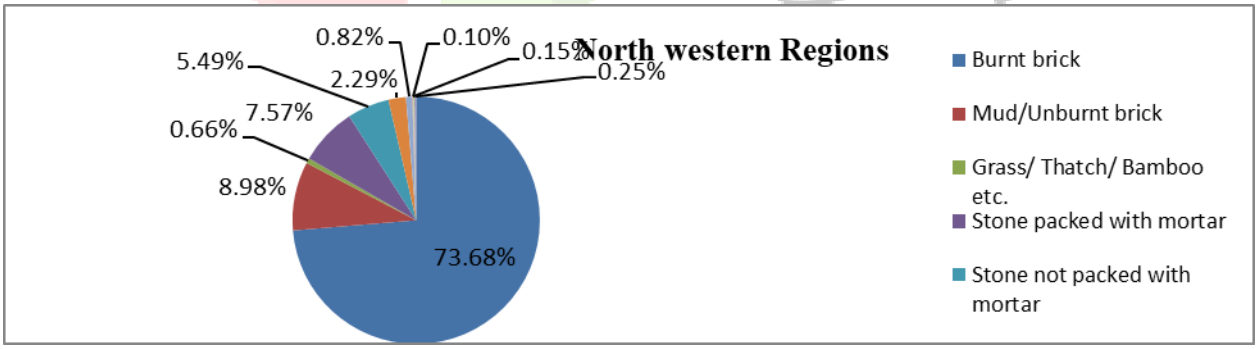
It is recorded that the maximum houses are made of (40.03 %) Burnt brick, followed by Mud/Un-burnt brick (30.46%) Grass/thatch/Bamboo (11.90 %), Stone packed with mortar (10.04%),



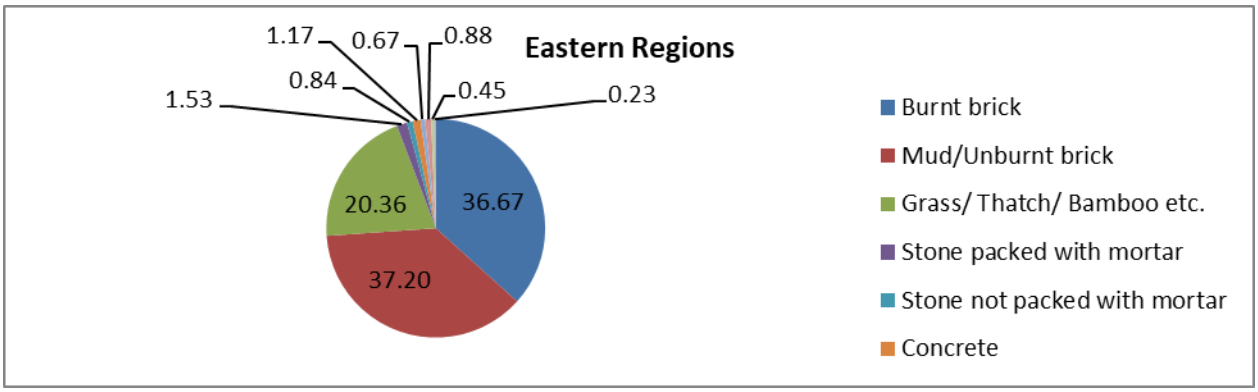
Stone not packed with mortar (3.64 %), Concrete (1.73 %), Wood (0.76%) and G.I/Metal Asbestos Sheets (0.46%) in rural India.



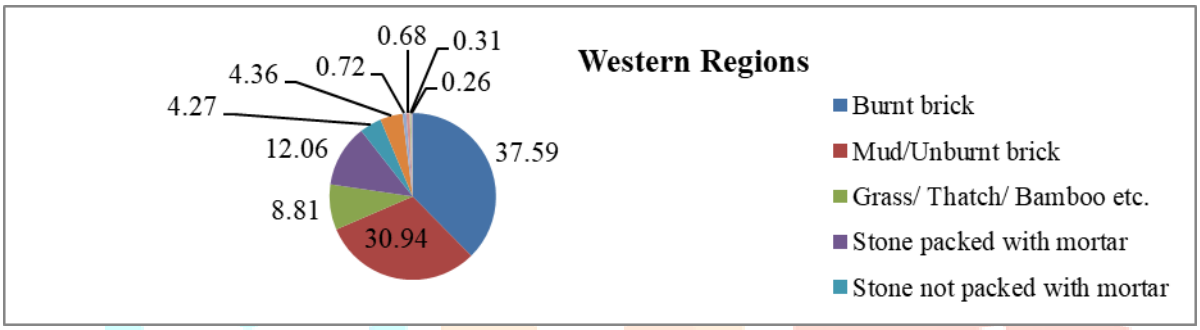
Further, it is observed that 73.68 % total houses have used Burnt bricks in north western region in rural India. The burnt bricks have traditionally been used as wall material in north western followed by northern region (43.65%) and eastern region (36.67 %) in rural India in 2011.



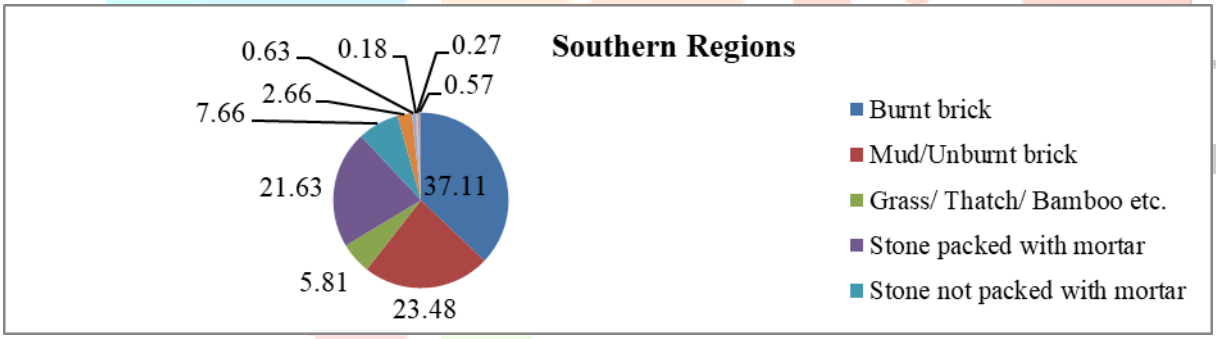
On the other hand mud/ un-burnt bricks are maximum used by 37.20 % in eastern region, followed by 36.02%, northern region, 30.94 % western and 23.48% southern region.



While the wall of the houses (63.97 %) in north western region are made of grass /thatch/ bamboo. Stone packed with mortar used in Western (12.06%) and Southern (21.63%) region in rural India.



Only 7.56% houses have used different sources of wall like, Stone not packed with mortar



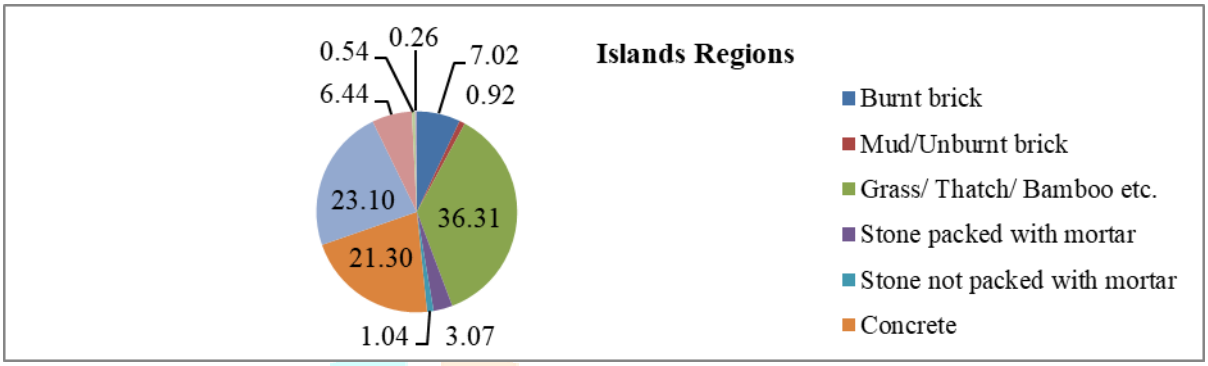
3.64 % Concrete 1.73 %, Wood 0.76 % and g.i/metal asbestos sheets 0.46 %, polythene/ plastic 0.33% and any other materials 0.64% in rural India as per 2011. This type of wall materials is shown in the table 2.

Table No.2: Use of Wall Materials of Region-Wise in Rural India, 2011.

Sr. No.	Name of Material	North Western	Northern	Eastern	North Eastern	Western	Southern	Islands	**India**
1.	Burnt Brick	73.68	43.65	36.67	14.00	37.59	37.11	7.02	40.03
2.	Mud/Unburnt brick	8.98	36.02	37.20	10.94	30.94	23.48	0.92	30.46
3.	Grass/Thatch/ Bamboo etc.	0.66	4.75	20.36	63.97	8.81	5.81	36.31	11.90
4.	Stone packed With Mortar	7.57	10.14	1.53	0.96	12.06	21.63	3.07	10.04

Total	**90.89**	**94.57**	**95.76**	**89.87**	**89.40**	**88.04**	**47.33**	**92.44**
Source: Compiled by Author.								

According to census of 2011, table 2 showed the wall materials in rural India. In this table southern regions mostly used by burnt brick (37.11%), mud/unburnt brick are covered (23.48%), followed by Islands region mostly made Grass/thatch/bamboo etc.36.31% and burnt brick used in 7.02% burnt brick.



It is recorded that the maximum houses wall are made of four type's materials like burnt brick, mud/unburnt brick, grass/thatch/bamboo etc. and stone packed with mortar are 92.44% in broad region in rural India.

Conclusion

It is concluded that Burnt brick is mostly used in constructing the wall especially in northern part and western part of India, while Mud\Un burnt brick is used in eastern, western, Northern and southern. Grass\thatch\bamboo comes at third position .while in northern part its usually is 70% and the reason behind this can be the climate condition, economic condition or it can be both. In condition to this, it is used at Islands also. Concrete is mostly used in Island as well as northern part of India. There are 26 districts in India where more than 75% Grass\Thatch\Bamboo is used for constructing the wall and mostly located in eastern part of India. Grass is lowest used in Western part in India. In addition to this it is rarely used in Daman & Diu and Delhi. More than 90%Burnt Brick is used in Western part of India. Where23 Districts are included. It is mostly used in eastern Delhi, western Delhi, Haryana and Himachal Pradesh. We have observed that in 78districts which comes under eastern and western part of India. Less than 15% houses used Burnt Brick in 167 districts mostly in hilly areas, Islands and eastern part of India. More than 80% houses used Mud in constructing the wall in eastern and western part of India. Mud\ unburnt as wall material had been used by eastern (37.20 %), northern (36.02 %), and western (30.94 %) and lowest used by islands (0.92 %), north western (8.98 %) and north eastern (10.94 %).

References

Ali,S.M.(1942),'Population and Settlement in the Ghaggar Plain',**Indian Geographical Journal,** Vol.17,

Census of India (2011): **Primary Census Abstract,** India, CD, New Delhi.

Census of India. (2011), **Tables on Houses, Households Amenities and Assets,** HH-Series, New Delhi. Chamar, K.V. (2002), "Rural Dwellings and House Types in Desert Land of Haryana: A Case Study of Bhiwani District", **Transaction, Institute of Indian Geographers,** Vol. 24, No. 1&2, pp. 53-62.

Chamar, K.V. and Chamar, S.K. (2013), "Rural Dwellings and House Types in Village Sirsa Kheri: A Case Study", **Eastern Geographer,** (ISSN: 0973-7642) Vol. XIX, No. 1, Jan, pp. 97-104.

Duggal, S.L. and Gaur, Kripashankar, "Rural House Types", in Human Geography, Meerut, p. 259.

Kiss E. and Singh J. (1997), 'Changes in The Rural Life and Living Conditions in Hungary: A case study', **National geographical journal of India**, Vol.43 (4),pp.332-346

Mishra, S.N. (1969), 'Human Dwellings in Sonpur Region,(U.P):A Geographical Analysis', **The National Geographical Journal Of India**,Vol.16,pp.8-23.

Rai (1987), **Formation of Haryana**, B.R. Publishing Corporation, New Delhi.

Subrahmanyam, K.M. (1938), "Four Main House Types in South India", **Journal of Madras Geographical Association,** Vol. XIII, p.168.

Sharma, R.C. (1964), "Western Rajasthan: A Study of House Types", **National Geographer,** Vol. III, p. 48.

Sinha, V.N.P. (1969), "House and House Types of the Chotanagpur Plateau", **Geographical Knowledge,** Vol. 2, p. 91.

Singh A.K. (1985), "Ballia District: A Study in Rural Settlement Geography", **NGSI,** Varansi.

Sharma, J.P. (1975) 'Rural Dwelling and House Types in The Himalayan Ravi Chenab Interfluves', **Geographical Review Of India**.pp.30-41.

Sinha, V.N.P. (1969), 'Houses and House Types of the Chotanagpur Plateau', **Geographical Knowledge**, Vol.1.2..

Singh, S.B. (1976), 'Rural Dwelling in The District Of Sultanpur', **Indian Journal Geography**; Vol.11-12, pp11-18.

Unni(1965), 'Social Factors in Housing' in The Rural Habitat, David Oakley, New Delhi.