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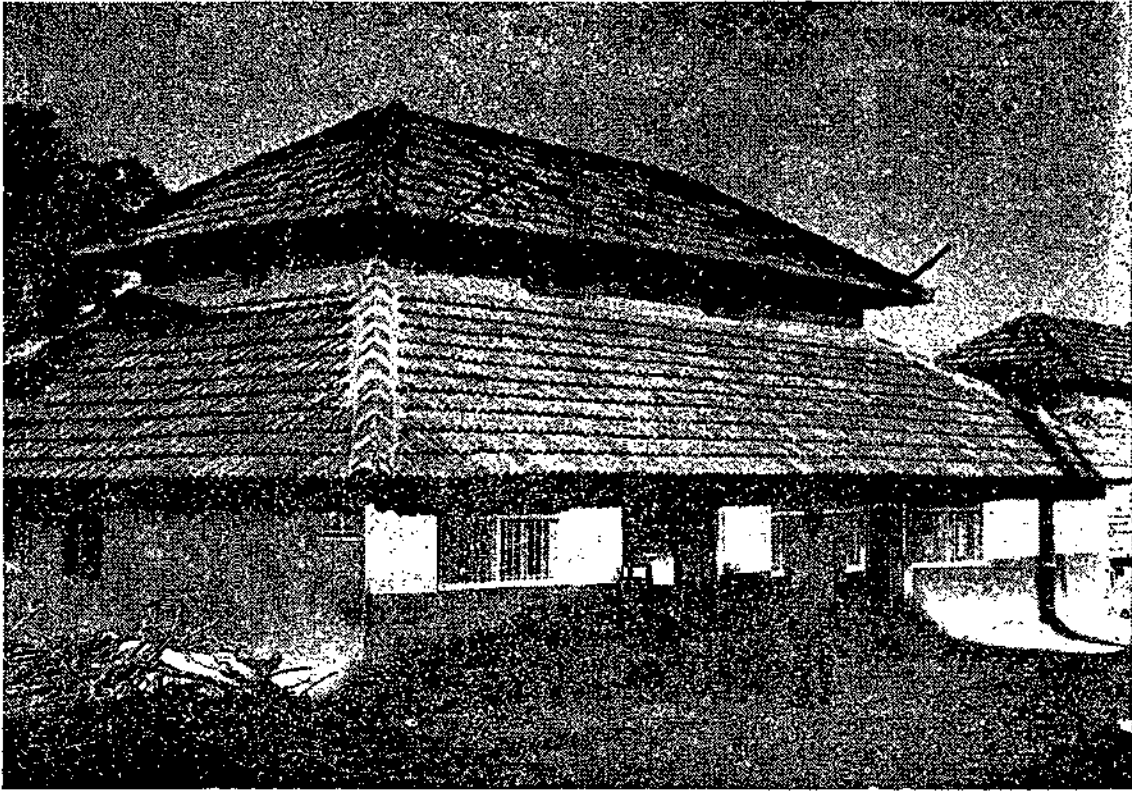
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CHAPTER 8REGIONAL DISTRIBUTION OF RURAL HOUSE
TYPES IN INDIA

Individual dwelling is the basic unit of settlements. It is more than a shelter, because it expresses both the physical and economic conditions of the area. A man in his rural settlement builds his house by using the building materials available in his own locality. Therefore, a rural house is an indication of the regions geology, soil and vegetation. A rural house expresses the climate through the slope of the roof and the materials used. The availability of materials depends on the type of climate and soil.

India is a vast country having a large variety of soil and climate. The economic conditions also differ from one class of people to another. Ethnic and other socio-cultural factors also bear upon the various aspects of rural dwellings. Many climatic and religious beliefs have also influenced the orientation of the houses. In many parts of the country the houses never face west. The influence of castes was traditionally so great that the intermingling of residential houses of upper and lower castes was never allowed. The scheduled castes are mostly assigned an isolated area on the outskirts of the main settlements. Every village in India shows contrasts between the houses of the upper and lower classes.



Storeyed house with brick walls and Mangalore tiled roofing

FIG. 25

In spite of some well marked common characteristics, the rural houses in India vary widely. The variations in building materials are areal. The variations in ground plan, structural size, architectural design, accommodation and uses relate to physical environment and ethnic composition of the population. As the characteristics of physical environment acquire areal pattern of distribution, the differences in rural houses are natural. Some of these are described in this chapter.

House Types in Andhra Pradesh

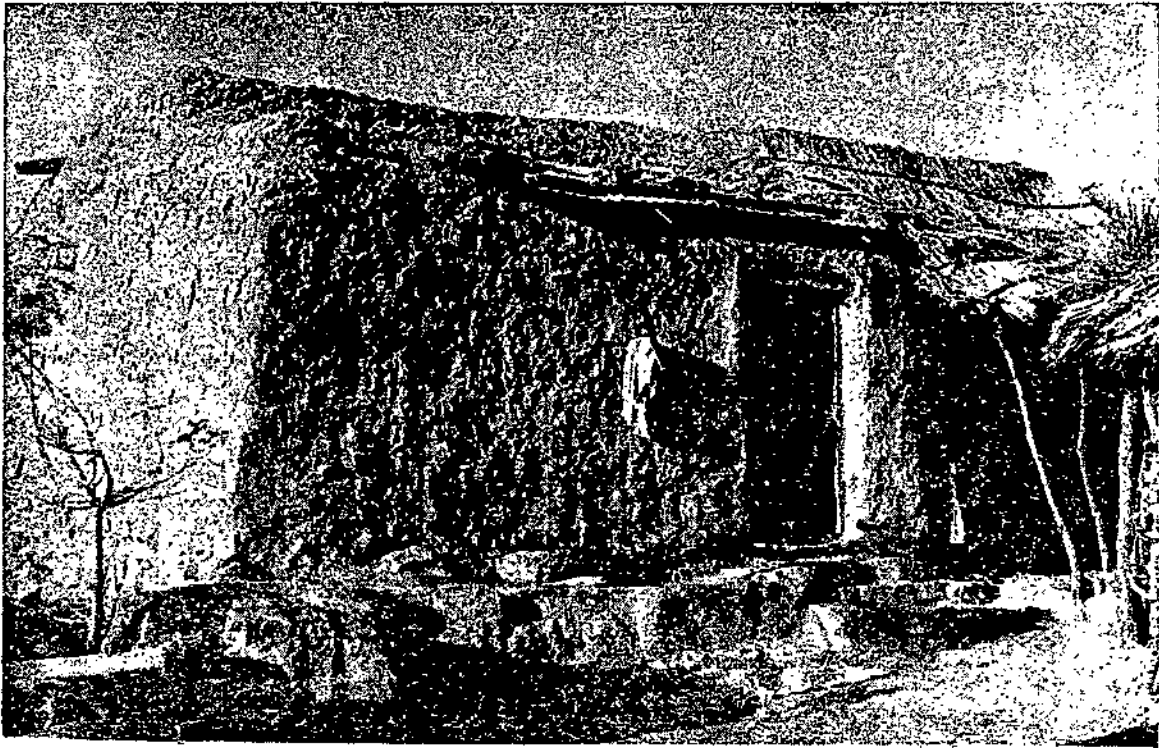
House types in Andhra Pradesh vary from one district to another according to the physical and cultural conditions of the place. The state has coastal, deltaic and plain areas. Two types of population lives here, namely the tribal and non-tribal. Tribals are highly concentrated in Rayalaseema and Telangana districts and build their houses according to their own needs and resources. House types are influenced by the climatic condition and the availability of building materials in the locality (Fig. 25).

Case Studies

Kalliti Village (Tribal)

This village is located on a inter-State road only 14 km from Orissa State. It is an interior tribal village on the top of a hill between two hill streams in Srikakulam district. The Savara tribe is the sole inhabitant of this

TYPICAL RURAL HOUSES



Stone walls with mud plaster and flat mud terrace

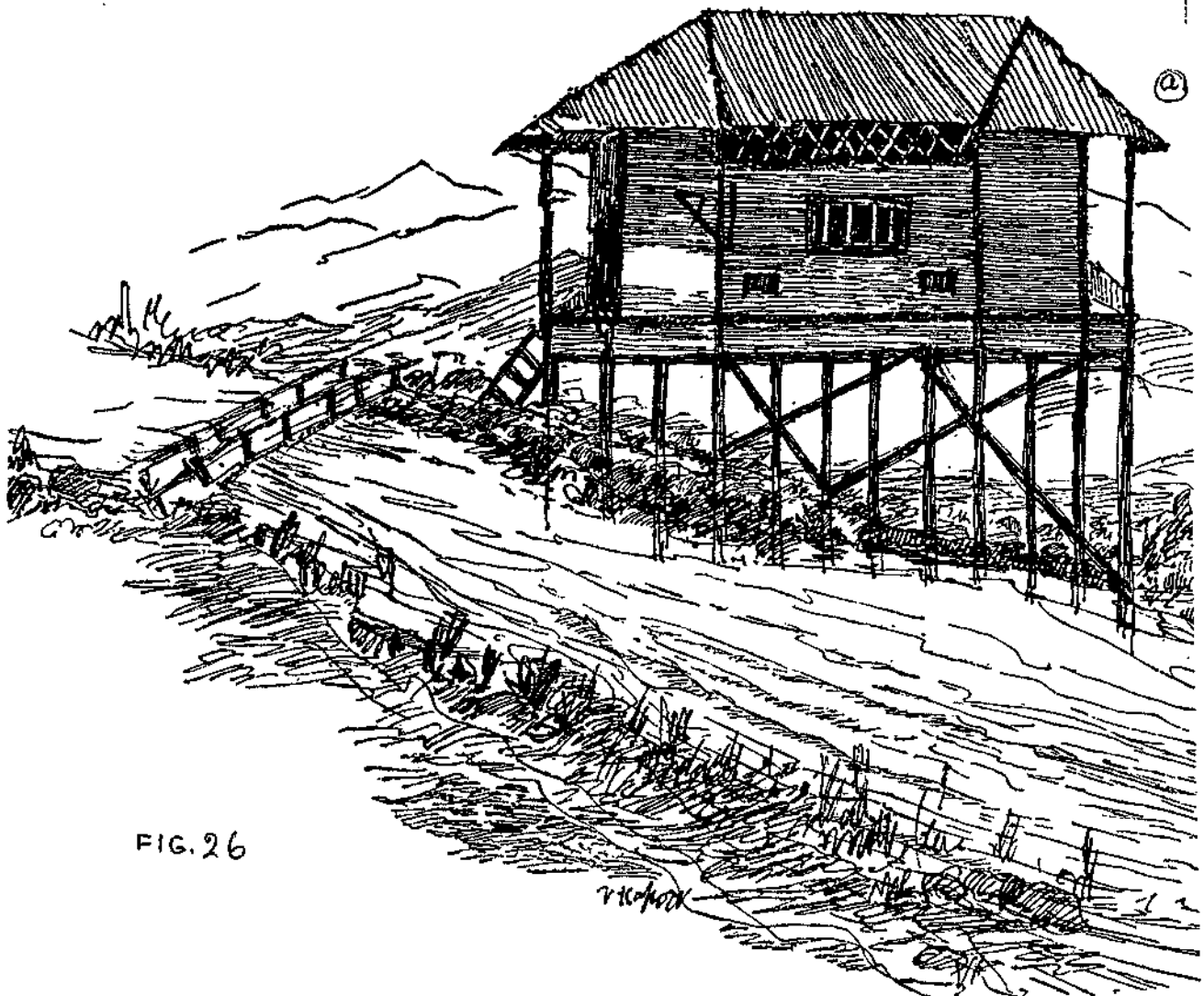


FIG. 26

V. K. P. 1900

village. This village lie concealed in the uncles. They build their huts on hill slopes, tops of hills or at the foot of a hill wherever they find convenient level land close to the stream.

The arable patches of land are levelled into terraces for cultivation. All houses are thatched locally known as Soong. Their huts are rectangular having walls made of mud and stone which is neatly plastered with clay. The width of the houses should be either 3 m or 6 m or even 9 m. There is no such limit on the length. The houses face either north or south. Each house has two entrances one in the front and the other in the rear. Savara houses have two slopes and have a covered verandah in the front. A bamboo fence is put up in the back yard to separate one house from another. The height of the huts in the front as well as to the rear is nearly 2 m. In the centre it is nearly 4 to 5 m. The house consists of two portions separated by a wall of mud plaster nearly 4.5 m high. Most of the houses have wattle frames as doors. The cattle sheds are separately built. The Savara houses have mural paintings on their walls. One corner of the kitchen is used to worship ancestral spirits and deities. (Fig. 26).

Karada Village (Non-tribal)

Karada village lies in the north-coastal plains in Srikakulam. The streets of the village are straight. The village is multi-ethnic agricultural settlement. The lay out

pattern is linear. The dwellings are of three types based on roofing materials used. These are purillu, middillu and pen kutillu. The purillu houses have roofs made of sugar-cane leaves locally known as Cheruku or relli grass is used. The middle houses have roofs of small twigs and branches of trees over which mud and cow-dung are plastered. Penkutillu houses are constructed on Kankara/gravel lands. The walls are made of sand mixed with kankar and mud. Now-a-days, well to do people of this village are constructing concrete terraced houses (Mitra, 1961). The majority of the houses are made of mud. The roofs rest on wooden beams running north-south. The houses have nearly 2½ to 3 m high roofs. Nearly 0.75 m foundation is dug before the construction of walls. The houses consist of a 'gadapa' (Verandah), 'Natilli' (living room) and 'Vantillu' (kitchen).

Kotha Armur Village (Non-tribal)

Kotha Armur village lies on the Armur Taluk of Nizamabad district in Telangana plains. The land under this village is 150,000 sq. m and the settlement area is nearly 3000 sq. m. The entire village lies in the east of Hyderabad-Nagpur National Highway, which runs from south to north. The new extension of the village settlement has taken place in the northern part. The layout of the village is haphazard. The roads are narrow excepting the extended part of the village. It is a non-tribal village having mixed population such as Muslims, Vaisya, Brahmins, Scheduled Castes etc.

Three types of houses are constructed in this village, namely purillu (thatched), kumilhi (tiled), and pucca (concrete houses). The purillu houses have roofs made of palmyra leaves, or grasses. The walls of such houses may be of mud or bricks. Very poor people may construct such houses without walls having side poles and a sleep slope roof. Nearly 31 per cent of the houses are of this type.

Tiled houses may be one storied or two storied. One storey houses having one room are known as 'ekeri' and two rooms are called 'deheri'. The foundation of such houses is of stones. The actual plinth area is nearly 8x8 or 12x8 m. There are verandahs in the duheri houses which are used for fixing looms by the weavers and by others as venue for gossiping.

The 'pucca' houses are known as 'bungalow' or 'Bungala Sayabanilhi'. These are double storied structures having verandah. The roof of first storey is of tiles. The ground floor roof is of wood. The main doors of the houses face east known as poddikku i.e. direction of the sun. Some houses face north i.e. 'gangadikku', the direction of the Ganga river.

House Types in Rayalaseema District

The houses in the dry Rayalaseema districts of Andhra Pradesh comprising of Cuddapah, Kurnool, Anantapur and Chittoor districts show house types entirely different from

those found in other parts of the state. Simple round huts made of mud walls and roofs of dry corn stalks or jungle thatch looking almost pre-historic are a common feature in Cuddapah. In Kurnool district there are flat roofed houses entirely made of stone. The walls are made of flat stones arranged one over the other. The roofs are made by spreading flat sheet stones over wooden rafters. One has to dig the surface soil to get layer of flaky stone sheet just a few feet below the surface.

House Types in the North-Eastern Region

The North-Eastern region covers a vast tract of land with profound diversity in physical relief and climatic features. The building technology of the region has been developed by the ingenuity of the rural people through their age old experiences and has been handed down in the form of cultural heritage to successive generations.

Topographically the region can be divided into two main divisions : viz., (i) Hills, and (ii) Valley plains. For want of sufficient data and information, it is not possible to give full description of rural houses in this region. However, a few aspects of the rural house types is given in the following paras.

Houses in hills are mostly located at the foot hills or on table lands. All the villages are not close to each other. Since water and cultivable lands are the main require-

ments of the tribals, their villages are located near hill streams and arable hill slopes or tops. Most of the houses have rectangular ground plan and two sloping roofs. The houses are raised above the ground. The houses in the valley are different, because of the geographical advantages of the area. They occupy vast stretches of land and vast paddy fields demarcate the village boundary. The villages are located near to each other (3 to 5 km from each other).

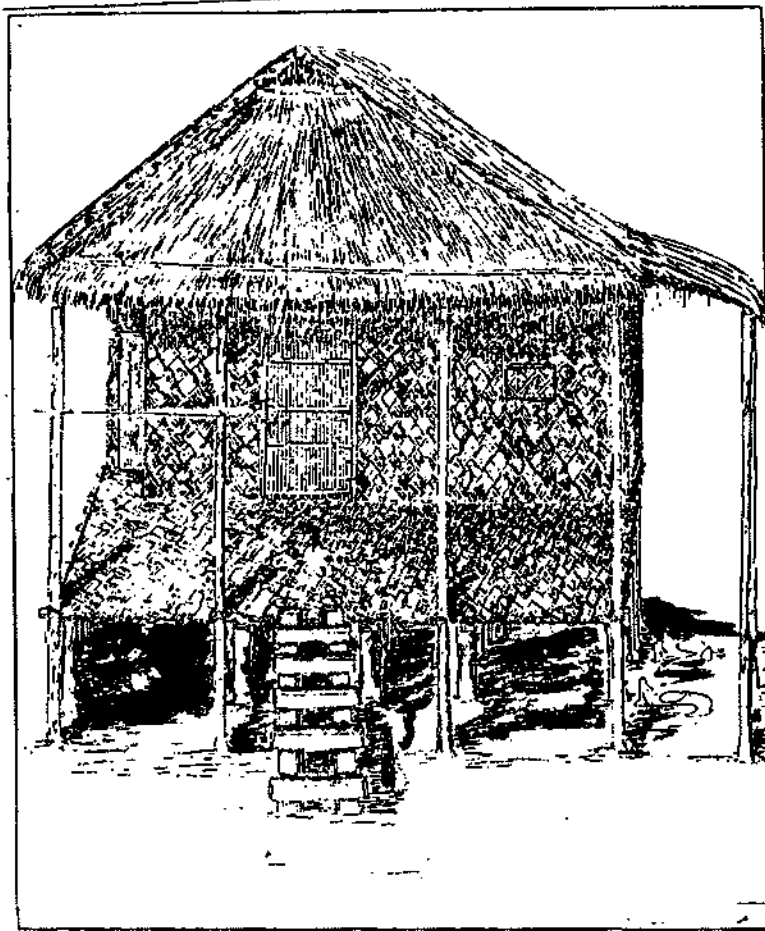
Houses in the plains are constructed with well defined boundaries, generally bamboo and shrubs grow along the family compounds. In 'Manipur a temple is constructed in front of the house of a Brahmin. The houses in the plain have earthen plinth and do not face west. The houses having urban influences have brick foundation, brick walls and corrugated iron sheet roofs, such type of houses belong to the rich. For common man's houses bamboo and wood are used in plentiful. (Fig.27).

Case Studies

1. Idu Mishmi Village

This village is located in Lohit region in the Dibang valley. All the houses in this village are dwellings and are haphazardly planned. This may be due to the hilly terrain and undulating surface.

Granaries are found in Idu Mishmi village, which are close to their houses. They are put up higher than the ordinary dwelling houses. The floor of the houses is made



a



b

Part of Lawngtlai village, Mizo Hills District.

FIG. 27

of wooden planks and the walls are of split bamboo matting. The roof is thatched on bamboo framework. Some of the houses are made of logs and bamboo tied together with cane rope. The roof is thatched which is placed on a bamboo and beam frame. The dwellings are constructed on a raised platform three to four feet above the ground. The doors of the houses are made of wooden planks. The building materials are available from the jungle. The villagers and relatives help in the construction of the houses.

ii. Laisong Village (Naga House)

The village is inhabited by Zemi-Nagas. It is situated at an altitude of nearly 1,000 metres in the south of north Cachar Hills. There is a wide foot path branching from the main-road. As the path approaches the village it becomes wider. The village is compact and the houses are more or less of the same pattern.

Laisong is a village of huts inhabited by people whose customs and manners are still traditional. Over the centuries, very little changes have taken place. The houses are arranged in two rows facing east. The front part has open space where the dead relatives are buried.

The houses are one storied and are standing on a roughly levelled lands.

The thatched roofs have leaves slanting down on each sides nearly touching the ground. This type of roofs prevent the house from being blown off by strong winds. The houses

are of split bamboo frames, over which layers of straw are fastened. The interior of the houses is divided into two compartments. The house has usually three doors - one at the front which serves as main entrance, another at the back of the house, and the third on either sides of the walls of the house. Due to lack of ventilation and absence of chimney, the walls give black and dismal look.

iii. Lawngtlai Village (Mizo House)

Lawngtlai village is located in southern part of Mizoram district. This village is situated on two spurs of a hill. The inhabited part lies at an altitude of about 1,000 metres. The land beyond the north and east drops suddenly many hundred metres to form a formidable natural wall towards the south. In the west, the land slopes gently which is used for cultivation.

Most of the houses in the village are approximately 10x15 mts. Generally the house consists of two verandahs one in the front and the other at the back and a very spacious main room. This rectangular room is used for cooking and sleeping while the verandah at the back is used for sitting purposes. The front verandah is used for keeping the agricultural implements.

The houses are not constructed on level land, because they are constructed on slopes. The houses are supported on poles of different sizes. The floor of the hearth is made

of clay and stones. Rest of the floor is made of wooden planks or bamboo matting. The walls are made of bamboo matting fastened to the outer posts. The roofs rest on the top cross bars and the forked posts. A frame of split bamboo is laid, to support the thatch roof. Doors and windows are cut out on the plaited bamboo walls. (FIG. 27)

House Types in Gujarat

Most of the rural population in Gujarat depends on agriculture. The land does not generate much income which indicates a subsistence kind of agriculture. Widespread poverty of the rural people puts restriction to the interaction with outside world. Most of the soils in the west are saline and are subject to erosion. This makes the land unproductive. Hence the houses in most of the villages are of poor quality.

In Gujarat, the houses have common walls and their plinths are not raised much above the ground. There are many types of houses. The walls are made of burnt bricks with mud mortar, grasses leaves and wood. The rich people's houses have wood work done on solid wood. The roofs are made of country tiles. Most of the houses have doors at the centre. There is a separate door to the stable. The ventilation is insufficient.

The houses of the scheduled castes are of poor quality and are located in the outskirts of the village boundary.

Their houses are small, thatched with grass or palm leaves. The walls are made of mud or split bamboo smeared with mud. A bamboo partition splits the rooms into two compartments.

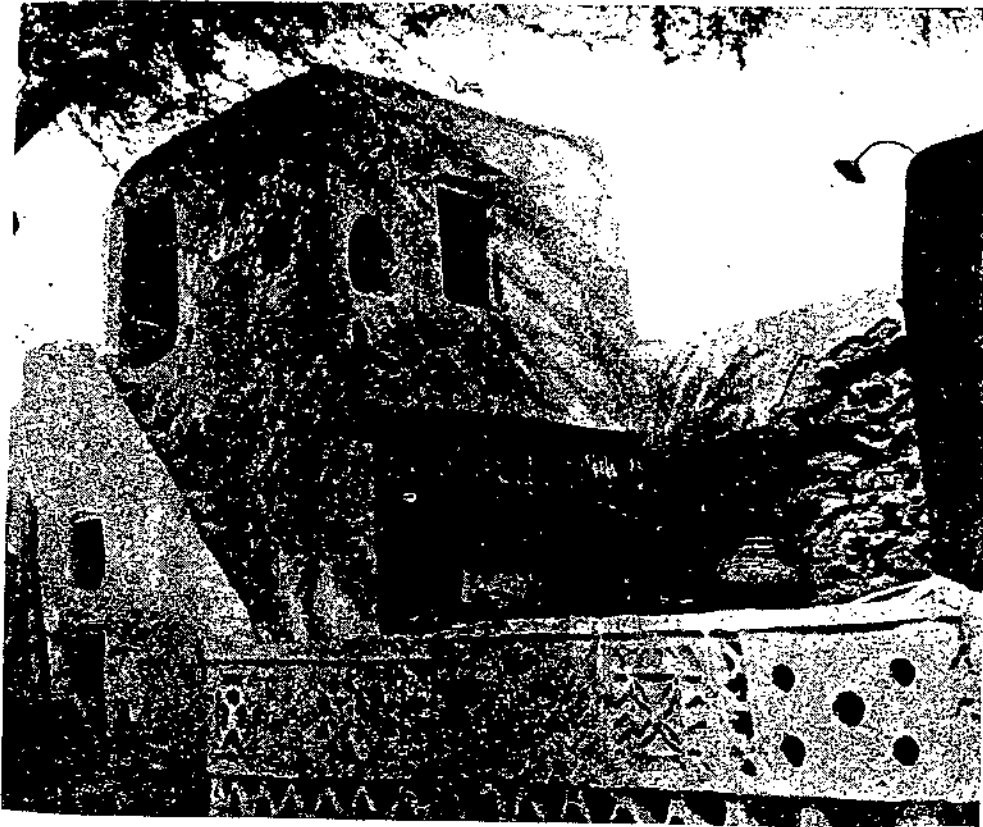
The houses of the Bhils need special mention. Their houses are made of wood. The entire structure is of wood including walls and roofs of the houses.

The houses generally have a well, tubewell or a tank built in the house itself. The tanks collect rainwater which is used for rest of the year for drinking purposes.

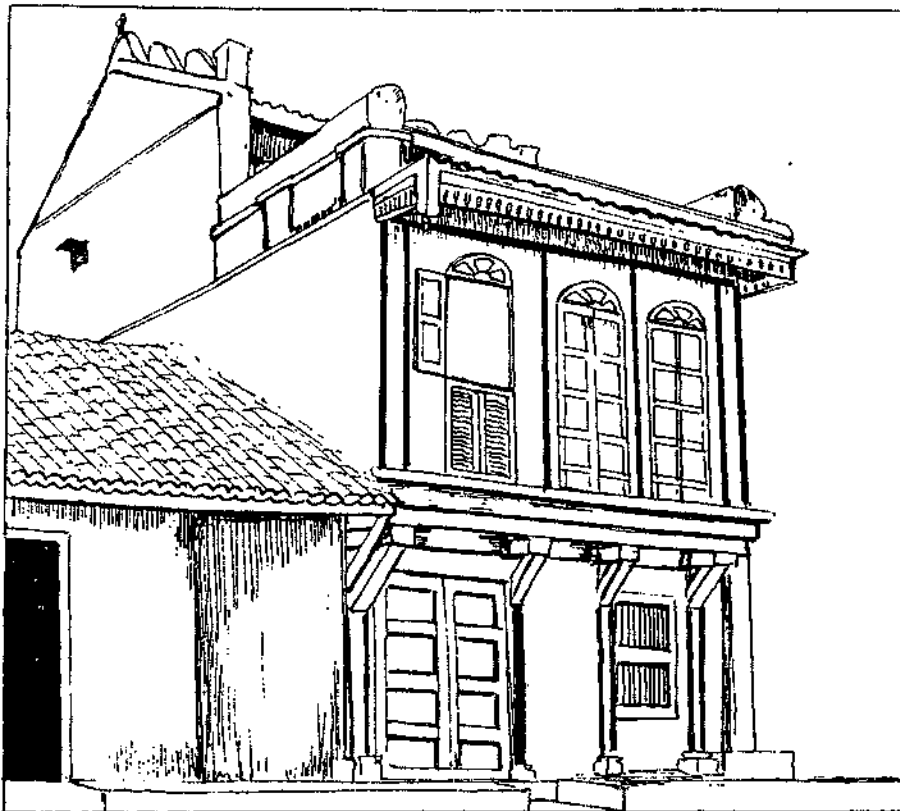
The coastal Saurashtra has developed in a different manner. In Dwarka tourism has generated small cluster of houses and shops near the temple. The marine environment is different. On way to Dwarka near Okha, wind mills are set up to generate power. The average wind velocity is nearly 20 to 25 kms/hour and at times it becomes 45 kms per hour when it is at its maximum.

All along the coastline, the shallow waters of the sea are covered with country boats. Deeper waters have motor boats or trawlers to catch fish. Fishes caught are sent to foreign markets after being salted and dried. Local markets are also wide due to its nearness to Bombay. The modern boats come from Kerala, Mangalore, Valsad etc. One such type of fishing village is Roopenbandar.

Roopenbandar is only 1 km away from Dwarka, and has a thriving economy based on fishing. The traders and fishermen come from various parts of India in proper season.



a



b

FIG. 28

Fishing is not done in the rainy season. The warm current which runs about 3 kms parallel to the coast helps in catching more fish.

The housing pattern in this fishing village is peculiar. All the structures are temporary and are inhabited only during a part of the year when fishing is done. The local fishermen have their houses at Dwarka. Most of the houses are crude hutments having coconut thatch. New huts have jute thatched slanting roofs. These are highly inflammable. This village settlement caught fire in October 1986. Because the economy of the village was badly affected, new constructions are of very poor quality. (Fig. 28).

The village has about 150 people - mostly men. Very few females could be seen around, because they are left behind in their home towns. The salt water of the sea is unfit for drinking purposes. Therefore, drinking water is brought from Dwarka, along with other items of daily use.

Bhimora Village : A Planned Village

Bhimora village is about km from Chotial (Taluk headquarter) and nearly 40 km from Surendranagar (District headquarter). This village has been deserted because the people have started living on farms. It has a fort and a temple. Various State Governments agencies such as the education department, the forest department, and also social welfare department had been trying to resettle the people of this

village. Sarvodaya Yojana under the Taluk headquarter had initially planned to have nutrition and food to the people. The Forest Department will also open up their own office.

At the initial stage the Sarvodaya Yojana has planned to have 38 residential plots on one side and public buildings such as school, offices etc. on the other side. An open air theatre having sitting capacity of 200 persons is also proposed. In addition to the construction of 10 demonstration houses, the following amenities had also been provided :

(i) Water tank, (ii) Pump house, (iii) Pump set, (iv) Sanitary latrine, (v) Open water channel 100 mt long. Locally available building materials are used for the construction of houses.

House Types in Punjab and Haryana

Most of the houses in Punjab and Haryana are changing and have shown signs of urban life. The streets in many villages are being paved. Better drains are constructed to carry off the refuse water. In many villages the supply of drinking water is through taps. The spread of machine based crafts has also taken place due to electrification of the villages. In these States, public institutions such as schools, dispensaries, post and telegraph offices, panchayat ghars and community centres are on the increase. All these changes in the village environment are due to the growing consciousness of the people for modern living. The education has brought changes in the attitudes of the people towards

modern facilities, which has helped in changing the rural house types.

In most of the villages of these two States, change in the building materials from mud, grass etc. to burnt bricks cement, concrete and iron has changed the design of the houses. Brick kilns are common features in these two States and use of burnt bricks is increasing fast. As compared to the old large houses having small number of rooms, new constructions have more number of rooms per household. Now most of the houses have moderate size of rooms. It is expected that in future this trend will continue. Because of exposure of the people to modern living. Now separate store and kitchens are being constructed. Cattles are being separated from the living quarters of the family. In recent decades, the improvements in roads, and linking up of villages with highways have stimulated the use of more durable building materials.

The degree of changes brought in the villages depend on the nearness of the village to the urban centres. Remoteness has been the cause of slow transformation in many villages. For example, Mahsa Tibba village in Ambala district has experienced very little modifications. The village is backward in every respect where tradition still holds sway so far as the living condition of the people is concerned. However, the use of furniture such as chairs, table and almirahs and also glass tumblers and hurricane lamps indicate that life, is not absolutely static. Hand 'Chakkis' are

also being discarded which is an indication of an urge of the people to have modern living.

As elsewhere, the traditional custom of storing food-grains for a number of years has been given up recently. The recent development of efficient transportation system to link this village with other areas has enabled the people to send their surplus production in the market. In case of shortage of food, now it can be brought from other areas. Frequent contacts with other areas have brought new ideas which are expected to continue in transforming the life pattern of the people.

The houses in this village can be divided into four different categories :

- i. The houses of the retired sepoy,
- ii. The houses of the affluent people of the village such as the head of the village, the merchants and other rich people,
- iii. The houses of tenant farmer, and
- iv. The houses of casual labourer.

The sepoy's house is generally of one room. A part of the room is used for keeping the cattle. In some houses the cattle is separated from the family by putting a partition.

The soldiers after serving in different wars have come back to their villages with a broader outlook, and have got some fresh ideas. With their savings they have constructed

pucca houses. The houses have insect proof floors, ventilators in walls and quite a few of them have separate kitchen with chimneys.

A retired soldier's house generally consists of a very large room, a back courtyard, and a kitchen with chimney. The large room has a partition. The room is nearly 10 mts long and 5 mts wide. The house has a neat look. The roof is flat. The courtyard at the back is used for all functions, such as drying of grains, bathing and keeping the animals. The courtyard has staircase for going to the roof. The houses where the kitchen is not separately constructed, the space under the staircase is used for cooking.

The House of the Affluent Society : The head of the village and other rich people of the village have joint families. The family members may range from 12 to 15 persons.

The household consists of the father, mother, sons, unmarried daughters, daughter-in-law and grand children. For example, the head of the village has four married couples living in four living rooms. They have a common kitchen, two cattle sheds and a store to keep the fodder. The living rooms are made of burnt bricks. Store and cattle sheds are of non-durable materials such as mud for walls and tin roofs. The entire structure has slanting roof made of thatch. The courtyard is fairly large and has manger for the cattle. The courtyard has other facilities also to carry on the daily life (see Fig. 29).

The House of Tenant Farmer : The house of a tenant farmer normally has a large all purpose room made of mud clods and thatch. It has some open space in the front and has separate cattle shed.

The House of a Casual Labourer : The house of a casual labourer is made of mud. Both the walls and the floors are of the same material. The roofs are of thatch. The house consists of only one room of about 7x4 m in size. Their houses do not have a separate kitchen and courtyard. They do not have a cattle shed, because they cannot afford to have a cattle. The house of a labourer is of poor quality.

Village Jogewala in Ferozepur District
of Punjab

This village is located in the cotton growing tract of Punjab. It is often flooded during the rainy season. This causes water logging. During other months, the climate of the area is dry and needs irrigation which is done by wells. In this village different caste groups such as Jats, Ramgarihas (Sikhs), Kumhars, Chamars, Barbers etc. live. The type of house varies from caste to caste depending upon their economic conditions. The houses of the Jats and the Ramgarihas are most spacious and well built. In comparison to these houses, the houses of people belonging to weaker section are of poor quality and are small in size. For the construction of rich peoples houses, the use of brick and cement is made. For poor peoples houses cheaper building materials such as

"Sarkanda", reeds, wood, bricks, mud clods etc. are used. Since the area is prone to floods during the rainy season, most of the houses have raised plinth which is nearly a meter high above the ground. Kutcha houses have mud plastered walls and thatched slanting roofs. A slightly better off people have flat roofs made of mud with wooden beams to support them. Such type of houses are plastered twice in a year once in February-March and then in June-July. In contrast to these, the pucca houses require a coating of white wash once in two years.

There are three types of houses in this village. These are :

i. Pucca Houses of Jats or Ramgarihas : The houses of Jats and Ramgarihas are of three to four rooms with a courtyard behind them. The front room is known as Dalan which is used for the animals. In some houses, there is a separate cattleshed. In such type of houses, the front room is used for sitting purpose of the male members. Male guests are received here. Other rooms which are at the rear end of the courtyard are used for sleeping, cooking and as stores. In some houses kitchen is made in the space outside one of the rooms which open in the courtyard. The utensils are made of brass which are arranged in the wall-shelves.

Most of the houses have raised plinths. The building materials used are according to the economic condition of the owners. Brick houses have walls, roofs and floors of bricks. The old constructions have nearly 2.8 m high roofs.

The new constructions, however, have started having low ceilings (nearly 2.5 m) in order to reduce their cost of construction. In the construction of such type of houses wooden beams with iron rods are used for the ceilings. The beams and rafters are made from kikar wood which is locally available. These type of houses have proper ventilation to provide light and air.

ii. Semi-pucca Houses of the Small Farmers : The walls of houses of small farmers are of burnt bricks and mud mortar and have thatched roofs. Some of the houses of the small farmers have their sitting room and the living rooms made of bricks and other durable materials while the store room and the cattle shed are of non-durable materials. As compared to the houses of Ramgarihas and Jats, the houses of small farmers are small with limited use of durable materials. The use of cement and concrete is negligible. In such type of houses there is no courtyard and a verandha is constructed in front of the rooms. There is only one window in each room. The houses generally are very neat looking.

iii. The Kutcha (non-durable) Houses of the Poor : Such type of houses belong to the chamars, kumhars, barbers and other low income group of the village society. Their houses are one room structure with an attached courtyard or veranda. In many cases, they have a common courtyard. Many households share one courtyard around which the houses are arranged. The kitchen for fair weather is constructed in the open air in front of the house. The roofs are flat and a

wooden ladder or mud staircase is provided. The residential accommodation is inadequate. The very poor have mud clods used for walls and the roofs are constructed by using thatch over a frame made of Kikar wood beams and rafters. The thatch of the roof is prepared by filling up the frame with 'Sarkanda Reeds'. The entire roof is covered with mud plaster. In fact, the structure looks to be made of mud only. A small hole is made above the door for air and light.

Some changes in the recent past have been brought in this village. The village was electrified nearly 3 decades back. Now most of the houses have electric connections. Out of ten houses that were constructed between 1961-71, three were pucca. The houses constructed after 1972 had more durable materials of which nearly 30 per cent were entirely of pucca materials. The new trend is towards better constructions. Instead of mud, the Kutcha houses are of unburnt bricks which give them neat look. The walls of such houses are thin and give them more space. The ugly unshapely beams of wood and rafters are now totally discarded. Now the roofs have shapely beams and rafters to give proper shape to the roof. New houses have proper windows and doors.

Modern houses have bath-rooms, but none of them have laterines. Even today, courtyard is an essential part of the house of farm family. Similarly a store room is a must in case of rich farmer's house. The houses of well to do farmers must have a separate cow shed and an attached small room for storing fodder. The wood used in the constructions

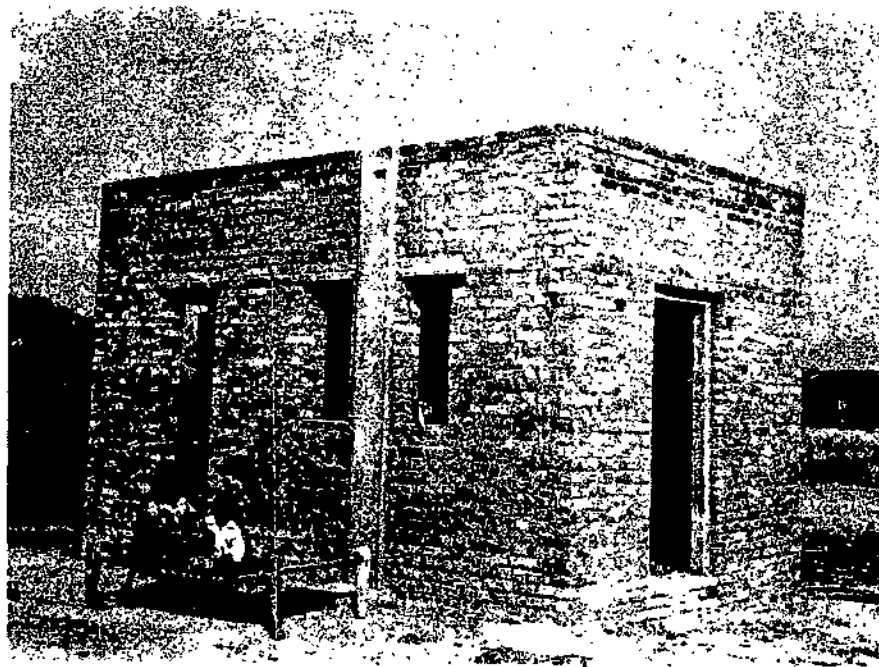
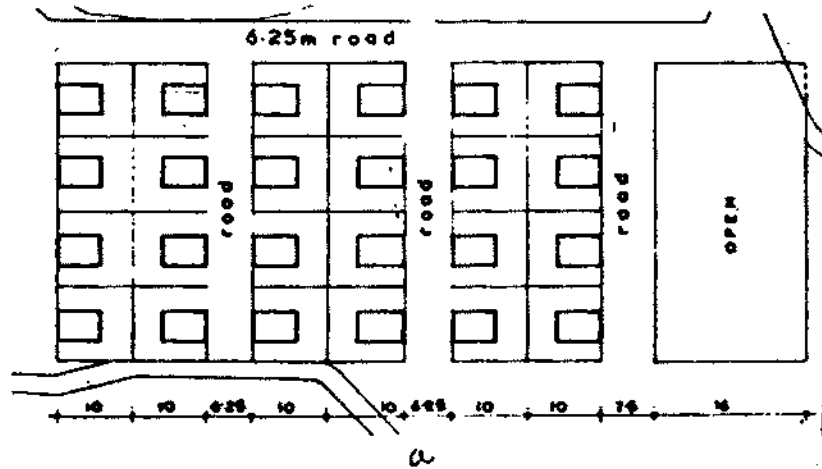


FIG. 29

is kikir (*Acacia arabica*). Another major change that has taken place in recent years is that tiles are being used for roofing, which enable them to have proper ventilation and security against rain.

Mani Majra (Planned Village) : The village Mani Majra is located on the main highway connecting Chandigarh-Kalka. The village had been given a grant of Rs. 2400 by National Building Organization for the construction of each house. A total grant of Rs. 55000 had been given for the construction of 21 planned houses having 16 m² plinth area. Chandigarh Administration had also been actively involved in the development of roads, drainage, water supply, parks, street light etc. The soil stabilized bricks had been used for super-structure. Self-help of the beneficiaries has been utilized to complete the first phase of construction. The house plan is given in Fig. 29.

Shamaspur Village (A Planned Housing Village in Haryana) : The village is located in Gurgaon district in Haryana and is about 5 km from Gurgaon township. It lies at a distance of 32 km south-west of Delhi. The proximity of its location has enabled the villagers to come in contact with urban life. This contact has helped in generating a desire among people to have better living.

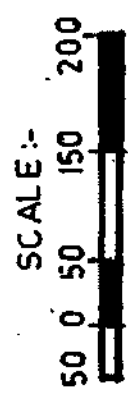
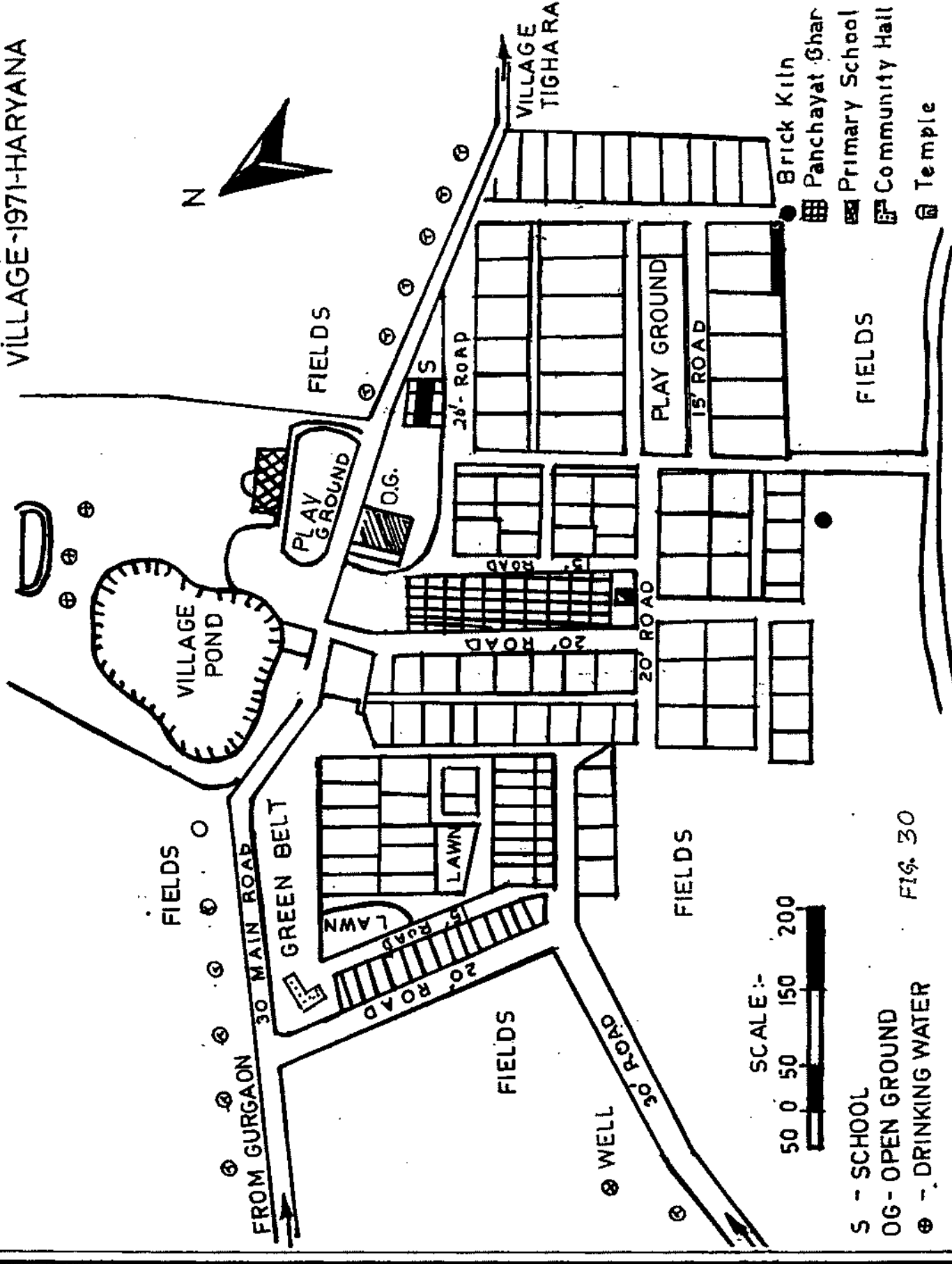
The village covers only 120 hectare of land of which 4.8 hectare are under residential use. 20 acres are under waste land and the rest is put under agriculture. The

village has about 70 families and the total population is about 700 people. The size of the plots range from 15 m x 30 m to 8 m x 24 m. The houses vary according to the caste of the owner and the rooms range from 1 to 3. Generally 3-roomed houses belong to Ahirs and one-roomed to the Harijans. (Fig. 28).

Since it is a planned village, the houses are built by demolishing the old kutchra houses. The major impact of such a change is that the houses of this village now resemble each other.

The village is small and was therefore entirely surveyed to find the major effect of planning on this village. The villagers being more literate (mostly ex-armymen) are ready to accept the plan excepting some traditional minded residents who objected at the initial stage. For this the BDO (Block Development Officer) had to pursue this work to get every one agree to the new scheme. The Rural Housing Wing of the Ministry of Works and Housing, Government of India prepared the plan of houses, which was implemented after a thorough study of socio-economic conditions of the villagers. The low cost housing scheme introduced by the Government enabled the Harijans to receive Rs. 500 as subsidy and the amount to be paid in easy instalments in 30 years. Some villagers did not accept the plan because they are in joint family system and the plan has no provision for partition. As such few people were allowed to have their own plan of houses. A cooperative Brick Kiln was set up outside the village to save transportation costs. Readymade doors and

VILLAGE-1971-HARYANA



- S - SCHOOL
- OG - OPEN GROUND
- ⊕ - DRINKING WATER

FIG. 30

VILLAGE TIGHARA

- Brick Kiln
- ▤ Panchayat Ghar
- ▥ Primary School
- ▦ Community Hall
- ⊕ Temple

windows were purchased from Hindustan Housing Society and pre-cast beams and concrete slabs for structural purposes were brought from the factories. The owners built their own houses.

The lay-out provided 39 plots in 1 room sectors, 41 plots in 3 roomed sectors. The plan provided a primary school, community centre, a panchayat ghar and a play ground. The open air temple was constructed to serve the village community (see Fig. 30).

The village is electrified and the water supply comes from taps fixed in the open spaces near the residential units. The existing tanks were originally created for the supply of mud and mortar for construction works. Now the tanks are used for washing and bathing the animals. The village community hall is used as Nursery School in the morning and for tailoring school for women in the evening. The younger generation after having education is engaged in non-agricultural activities in the nearby urban and semi-urban centres. Since agriculture is partially mechanized, the improvement in methods of production of agricultural goods can be noticed. The consolidation of land holding has enabled this change. Every family has a tube-well. In comparison to Ahirs, Harijans have less land and have to work in neighbouring towns as peons and watchmen.

The sample study of 3 Ahir's houses reveal some interesting facts. These 3 Ahirs households did not accept the plan offered by the NBO and had their own plans made.

From above, it is evident that the Government plans of three room houses were not accepted by all the villagers. It is because certain other needs were considered to be more important which were emphasized in the plan of the houses. The provision for the expansion or sub-division of the houses was most important factor. Over the years even the houses constructed by using government plans have been changed to provide more space. To increase the living space verandahs are covered. Nearly 60 per cent of all the houses have made alterations and additions according to their requirements. The planned houses, however, have better provision. The drains are pucca and most of the roads are metalled.

The traditional codes of conduct are still governing the family system. Different sections of the houses are given differing degrees of sanctity, more particularly the kitchen and the 'Puja' room. The rigid customs still continue to shape the behaviour and norms of joint families. The tradition is, however, weakening appreciably in small sized nuclear families.

The planned houses have induced the following changes in this village :

- i. Baithak is losing its significance as an area exclusively meant for men. It has become a family area;
- ii. Well educated people have accepted enclosed bath and modern latrine facilities.

These facilities are confined only to small nuclear families. However, the design of these houses has influenced the future trend of family living in this village.

House Types in Himachal Pradesh

In Himachal Pradesh, the houses are built haphazardly. Both stone and woods are used in alternate layers. No mud mortar is used. Most of the houses are of two storeys, some with small room in between the two storeys locally known as 'pand'. Pand is only 4½ m high and has only one opening for light. The family retires to this in winter months because of cold weather. The gabled roof is laid over a structure of wooden beams. The covering material is slate. Such a type of house is common in Mahesh district.

In Chamba, the houses are built on hill slopes without any planning. The doors of the houses are of wooden planks which can be removed and are used as shutters to close or open them. The roofs are flat or gabled which are made of stone and mud. The main entrance of the house faces east or west. The rooms are divided by putting wooden partition. Flat roofs are used for making hay. The housing pattern of Muslim gujars and Brahaman Gaddis are slightly different from each other. The Gaddis have separate cow-sheds while the Gujjars have separate room for cows under the same roof.

The houses in some of the Mandi villages are built on a rocky spur near their fields. Most of the houses are



FIG. 31 (a)



FIG. 31 (b)

double storied. The ground floor is used for the cattle and the upper floor for residential purposes. There is no bathroom. The houses are built by using mud, timber and stone. The walls are made of stone with beams of wood at regular intervals. The roofs are of slate. The thickness of the walls varies from 40 cms to 50 cms. Old houses have poor ventilation. Most of the houses are constructed by the family members employing one or two carpenters. (Fig. 31).

The houses in Sirmur are of different types, because these are constructed on plain ground. These are constructed in rows of three or four with some space in between. The houses are rectangular in shape, and in most of the cases have two rooms and a verandah. There are three types of houses : (i) Pucca house with carrugated iron sheet roofs, (ii) Pucca house with Chhapar and (iii) Kutcha house with 'Chhapar'.

The roofs of the houses having corrugated iron sheets are flat while with 'Chhapar' are slanting. The 'Chhapar' is made of 'Khar' grass tied to bamboo frame. This type of roof is nearly 24 to 30 cms thick. The 'Chhapar' are very cheap. The thatch grass is replaced after every three to four years.

The dwellings in Bilaspur have gabled roofs thatched or of slate. Mostly the houses are double storied with an inside staircase. There are closed verandahas and windows. In most of the houses locally available building materials such as grass reeds for thatching, stone, sun dried bricks,

bamboo and timber are used. Iron handles, screws, nails and bolts are available with local shopkeepers. Galvanized iron sheets for roofing are also used. Slates of various types are brought from Mandi district. The timber is obtained from simbal and mango trees. Cow dung mixed with clay is applied on walls and floor. Makol a white clay is used for white washing.

The houses in Kinnaur district are made of stones, timber, local bushes, and bhojpatras. Stone and timber is used for walls and bushes and bhojpatra for roofing purpose. The foundation of the house is nearly 90 cms deep and is filled with stones. Due to slope there is no plinth. The ground floor is used for cattle. The houses are either rectangular or square and face south.

The doors and the front part of the house is made of wooden superstructure of 4-6 cms thick planks. The main door lies in the centre. During winter, the snow is immediately shoveled down from the roofs, as soon as it stops snowing to avoid leakage and roof collapse due to heavy weight of the accumulated snow. The bathrooms are uncommon.

On the whole, the residential pattern in the mountainous region is different in Himachal Pradesh. Most of the areas are unsuitable for cultivation. Large tracts of land are covered with dense forests. In many places, the soils are too poor to support dense population. Hamlets and isolated homesteads are found wherever there is small piece of flat land.

House Types in Jammu and Kashmir

The State of Jammu and Kashmir is an agglomeration of diverse physical characteristics. A large variety of houses are constructed depending upon the natural condition of the areas. Broadly speaking, they are of four main types.

i. Mud or Burnt Brick Walled Houses : These type of houses have thatched or tiled roofs. Their predominance is in Kathua and Miranagar Tehsil of Kathua district and Shehra Tehsil of Poonch district. The rainfall in this region is 122 cms and temperature recorded is 45.7 c in summer. The area lies in the sub-montane region of the western Himalaya.

ii. Stone-walled Houses : Stone walled houses are found at Ramnagar Tehsil of Udhampur, Bashohli Tehsil of Poonch, and some other areas of Udhampur and Doda. The area where such type of houses are found is known as outer hills. In its north lies Pir Panjal and in the south is Siwalik. The area experiences heavy snow and rain.

iii. Burnt or Unburnt Brick Houses : Such type of houses are found in the Jhelum Valley and also in the flat areas extending into its enclaves and smaller valleys formed by small rivulets. The average rainfall is 80 cms and temperature ranges between 34°C in July to 9°C in January. It is bounded by Pir Panjal in the south and Central Himalaya in the north-east and north. Clay is easily available for manufacture of bricks. The majority of the houses are mud

or lime plastered. The traditional houses have roofs of thin planks of wood covered with 15 cms thick mud plaster. Now-a-days, shingle or corrugated iron sheets are used for roofing purposes.

iv. Stone Walled Houses : The area of stone walled houses is concentrated in the Indus valley. It has its origin in Mansarovar in Tibet. Its boundary in the south is in the control range of the Himalaya and is bounded by Karakoram mountain in the north. Leh has practically no rainfall and temperature in winter goes as low as -18°C centigrades. The dwellings are far apart from each other and are made of stone. Besides economic backwardness, inaccessibility also account for the use of stone. Wood is scarce and therefore extremely expensive.

House Types in Kerala

The people in Kerala select the sites for their dwellings on the margin of a fertile valley with rice fields in front of their doors. Each house, even the humblest of all, stands in its little compound or garden which is thickly planted with coconut palms, jack trees, betel nut, and pepper trees. The communal clustering of houses is rare. Only the Anglo-Indians, Tamil Brahmins, Konkani and Muslims are the communities in which clustering of houses can be seen.

On the basis of materials used and plinth area, the number of rooms and living facilities, the houses of this State can be broadly divided into four categories, viz.,



a



b

FJ6.32

i. Traditional Houses : These are made of wooden-walls and thatched or tiled roofs. These are known as Nalukettu.

ii. Modern Houses : These houses consist of a drawing room, a dining room, bed rooms with attached bath and a separate kitchen and store. The houses have tiled roofs. The walls are plastered with lime or cement. The windows have iron bars. These houses have wooden ceilings. Almost all the houses of this type have electricity and water from pipes.

iii. Houses of Laterite : These houses belong to the middle income people. They have the superstructure made of laterite blocks and walls are plastered with lime and sand and in few cases with lime and red laterite soil. Few houses have cement floors, while the majority of the houses have floor of beaten earth coated with cow-dung and charcoal. These houses have verandahs at the front and back (Fig. 32).

The ground plan of the houses is rectangular. The roofs are slanting. The wooden frame of roof is either of tiles or of thatch. In case of thatch, cadjan leaves are used for thatch. The compound is fenced either with thorns or with plaited cadjan leaves.

iv. Houses of Cadjan Leaves and Bamboo : These houses belong to the very poor. The plinth area varies from 30 to 60 sq m and are raised above the ground by constructing a platform of mud or laterite stone. These are round huts made in almost all parts of Kerala. The walls of such houses

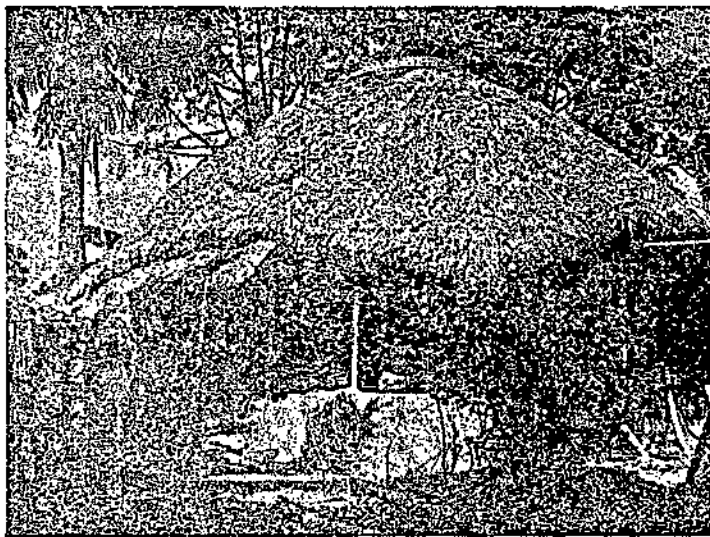
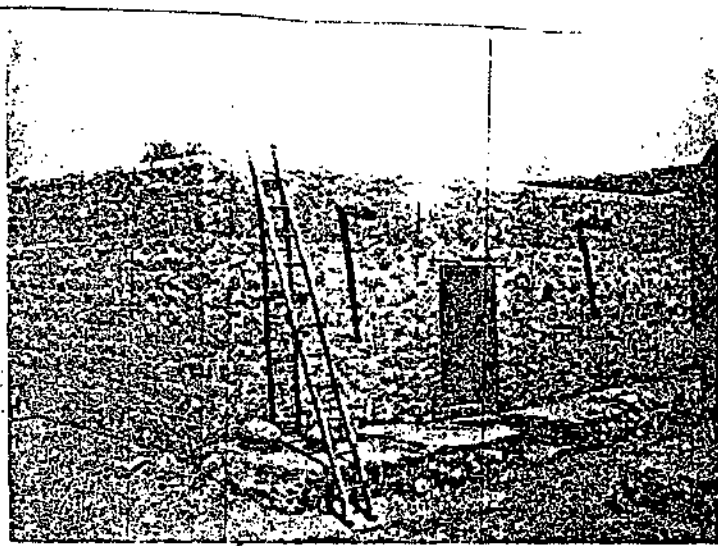
are made of plaited cadjan leaves and the roofs rest on bamboo pillars. These are one room houses.

In case of some tribal hills, the houses are made of beaten bamboo walls. The floor is also of bamboo and roofs are thatched. To ensure safety from wild animals, in some areas the houses are constructed at sufficient height from the ground level on the branches of the tree. The houses of hill tribes have few variations. The houses of the Kurumans are constructed on rectangular basement with two or three steps. The total height is 3 to 5 m. The walls of the houses are of mud or clay or sometimes of unburnt bricks. The roofs are of jungle wood and bamboo which is thatched with straw except for one door which may be on any side, the house has no other means of ventilation.

House Types in Madhya Pradesh

The locational pattern of villages and the houses types in the tribal areas are somewhat different from those occurring elsewhere. In this State, compact village settlement is practically absent in tribal areas. Small scattered hamlets are more common. The main tribal districts of this State are of three types, namely :

- i. Areas Settled by Bhils : Such areas are in the western and south western zone consisting of Jhabua, West Nimar, Dhar district and Sailana Tehsil of Ratlam district.
- ii. Areas Settled by Mixed Gonds : These areas lie



A MUD-WALLED THATCHED ROOF HOUSE

b

FIG . 33

in the central belt comprising of the south-eastern part of Harsud Tehsil of the East Nimar district Betul, Chhindwara, Seoni (excepting the southern part of these districts), southern tip of Narsimhapur, parts of Durg, Mandla, Shahdol, Sidhi, Surguja, northern parts of Bilaspur and northern half of Rajgarh.

iii. Areas Settled by Gonds : This area comprises of Bastar, parts of Raipur district, Sanjari Balod Tahsil and southern part of Durg Tehsil of Durg district.

In this State, all the tribal houses belong to two categories viz., (i) Rectangular plan with horizontal roof and (ii) Rectangular ground plan with inclined roof.

The houses with rectangular plan and horizontal roof are found in areas where stone specially the slate and sandstone slabs for roofing are easily available. In some areas thin sandstone slabs are also available for roofing purposes. Completely flat roofed houses are rare in this State. (Fig. 33).

Most of the stone houses have slightly inclined roofs. This inclination is only on one side. The areas where such type of houses are found are Morena, Bhind, Datia, Shivpuri, parts of Guna, Ratlam and Dhar districts. Parts of Mandsaur and some villages in Sagar district also fall in this category.

The circular plan is afforded by some castes who have migrated from Andhra, then Orissa and finally in Madhya

Pradesh. Such type of houses are not permanent. Such homesteads are temporarily constructed by nomadic migrants from Andhra Pradesh and are not constructed by any other caste group of this State (Mitra, 1961).

The common man's houses other than the tribes are basically made of mud walls and tile roofs (see Fig.33). The very poor have thatched roofs. The tribals, however, prefer bamboo for walls and grass or tiles for roofs. Bamboo is converted into mats and is used for the construction of walls. The bamboo walls are used as partition in the room when the family size increases. The wall does not touch the ceiling because it is only 6 to 7 m high.

Villages in the forested and waste land areas are small. In Mandla, Chhindwara, and Chanda, about 63 to 65 per cent of the villages are small. In tribal areas small villages account for more than 75 per cent of the total villages. Bastar 84 per cent of the village settlements are small and in Kalahandi the figure is 76 per cent.

Village Tilaibhat : This village is situated in Bilaspur district of Madhya Pradesh. The word Tilaibhat literally means the open ground of Telis. The Telis predominate in the village. The population of the village is nearly 400. The village came into being after 1891 census. The village site gently slopes in two directions - three-fourths towards the north and one fourth to the east. A

stream flows in the north of the village. Peepal trees (*Ficus religiosa*) are worshiped.

The houses are mostly semi-pucca made of mud walls and tile roofs. Thatched roofs are also common. There is no common meeting place like chaupal. The houses generally are small having one or two rooms. There are two wells one of them is lined with bricks. The other is kutchra. The village is small and the poverty of the residents is obvious from the kind of houses they live in. Oil is taken by kutchra road for sale in Mungeli market.

House Types in Maharashtra

House types in Maharashtra depend upon the climatic conditions and availability of building materials. The financial condition of the owners determine the choice of building materials used.

In the areas of heavy rainfall such as the Konkan district of Thana, Kolaba, Ratnagiri and in Amravati, Nagpur, Yeotmal, parts of C-anda, most of the houses are made of mud, grasses, leaves, reeds and bamboo and have thatched slanting roofs. The roofs of some of the houses have tiles. In coastal districts, the houses have raised plinths made of stone and mud. The houses generally have square ground plans. The roofs rest on wooden poles. In Ratnagiri district, the well-to-do people use laterite stone for walls. Each house has its own compound containing fruit and flower trees.

The Kolhapur houses in the rainy west are thatched and in the dry east the house have flat roofs. The wall materials are burnt bricks, stone, sun-dried bricks, mud etc. The windows and doors are made of babul mango or Jambhul. Rich people use teak rafters.

The houses at Janjira are made of tiles and burnt bricks. Poor people have low walled houses made of Karvi or bamboo. Their roofs are high pointed. Their floors are of hardened mud. They usually have one room. In Bhandra district, most of the houses have tiled roofs with burnt brick walls. Such houses belong to the rich people.

In Poona district, four types of houses are found. The first one can be called as mansion locally known as 'Vadas'. These are 4 to 5 roomed houses made of coarse stones, and burnt brick walls and have slanting tiled roofs. These houses have front verandah, central hall, kitchen and a puja room. A cattle shed is made at the back. The second type of houses have burnt bricks both for walls and roofs. Such type of houses have flat roofs. The third type of houses have walls of unburnt bricks and tiled roofs. These are single storey houses having two rooms. Some of the houses have stone with mud mortar for walls and have thatched roofs. The fourth type of houses are single roomed, having undurable materials both for the roofs and the walls. The main materials used are mud, wattle, reeds, millet or cotton stalks. The roofs of such houses are of bamboo frame with thatch of grass or leaves. The houses belong to the weaker sections.

In Buldhana district of Maharashtra, the way of construction of houses is peculiar. Here Ganpati (Lord Ganesh) is worshipped before digging the foundation of the houses. When the beams are posted, the owners place a few pieces of turmeric and betel nuts and a little quantity of 'Juari' grain dyed yellow in a piece of cloth and tie it to the first beam. The ground plan of a house is either rectangular or square. The front of the house should be narrower than the back. The houses face east, north or west but not to the south.

In Satara district, the houses are of two types namely immovable and movable. The immovable houses are made of fire baked bricks, unburnt bricks, mud etc. for walls and have slanting tiled roofs or thatch of grasses. The moveable houses belong to the wandering tribes. These houses have small tents or pals made of coarse cotton or wool cloth and some are of bamboo matting. The dwellers in huts suffer much from the heat, cold and rain.

House Types in Karnataka

The houses in this State can be divided into two main groups. These groups are based on the nature of the ground plan and the roof type. These are : (i) Rectangular house plan with flat roofs; and (ii) Rectangular house plan with sloping roofs.

The first type of houses are found in the areas having

less than 60 cms of rainfall (Mitra, 1961). In these areas the villages are normally located on the banks of rivers and streams or near the ponds. For the construction of such type of houses, the materials used are according to the economic condition of the owners. The persons with limited means use twigs, reeds and bamboo matting. They add leaves in order to prevent the earth from falling through the interstices of the reed mats. The surface is then plastered with mud. Nearly 75 per cent of dwellings are of this type. Rich people use stone slabs for roofing in the areas where stone is available. The most important districts where stone slabs are common are Kolar, Gulbarga and parts of Bangalore.

The second type of houses have rectangular ground plan and sloping roofs which are common in the coastal districts of South Kannad . Here the terrain is uneven. The houses are in or near the cultivated fields and are known by the name of the household. The villages are small with small number of houses and people. The houses of the scheduled caste live in a remote corner of the village. The temples are generally centrally located so that people from each area can reach easily.

From above, it is evident that the houses falling in the above mentioned categories are found in some distinct areas. Their spatial distribution is given below :

a. The district-wise distribution of houses having rectangular plan and sloping roofs :

1. Mysore
2. Mandya
3. Kannad
4. Hassan
5. Chikmagalur
6. Shimoga
7. Shimoga
8. Belgaum
9. Bangalore.

b. Names of the districts where houses have rectangular plan and a flat roof :

1. Kolar
2. Chitradurga,
3. Dharwar
4. Bijapur
5. Gulbarga
6. Raichur
7. Bidar
8. Bellary
9. Tumkur.

c. Distribution of houses based on wall materials :

Districts having mud walled houses :

1. Bangalore
2. Chikmagalur
3. Dharwar

4. Hassan
5. Kolar
6. Mandya
7. Mysore
8. North and South Kannad
9. Shimoga
10. Tumkur.

Case Study

Housing in Veerasagara Village in Bangalore District (Karnataka)

General Description : Veerasagara is a moderate sized village located in the north Taluk in the Bangalore district. It is nearly 22 km away from Bangalore. The village is situated on fairly elevated land surrounded by low agricultural fields which has tanks for irrigation. The people grow rice. The village gets rains from the South-West monsoon between June to September and from North-Eastern monsoons between November to January. The rainfall is nearly 89 mm per year. The village on the whole is having moderate climate.

Population Characteristics : The total population of this village is nearly 500 out of which nearly 365 are male. The 55 per cent population of this village belong to 15 to 54 years age group, which is classified as the working class. A vast majority of the people of this village are Hindus. Nearly 41 per cent are Harijans who work as cultivators on

hire basis and can be called as hired labourers. The village consists of nearly 85 households out of which 37 are nuclear families. Being a paddy growing area, the majority of population is of cultivators and belong to lower or middle classes. Only 9 families belong to the higher class. Nearly 60 families come under lower income and the rest belong to the middle income group. The following figures shows the distribution of households by income :

Distribution of Households by Income

High	Middle	Low	Total
9	16	60	85

It is interesting to note that majority of the people belong to the lower income group who are struggling hard for their existence and some of them are unable to meet even their basic requirements of daily life. Nearly 62 households belonging to the various income groups are in debt (varying from Rs. 200 to Rs. 1001 income group) (see table 7 on the next page).

Amenities : The amenities in the village include 3 temples and two Kannada primary schools. The village has electricity, but most of the residents do not use electricity due to their economic backwardness. The other amenities such as the internal and external drainage system, internal

Table 7 Distribution of Households by Indebtedness, 1972

Occupation	No. of House- holds	Amount of Indebtedness in Rs (in number)			
		200	201-500	501-1000	Above 1000
Cultivators	48	26	2	5	12
Labourers	27	4	17	3	3
Trademen	4	2	1	2	1
Artisans	3	1	2	1	1
Service	3	0	1	1	0
Total	85	33	23	12	17

roads, water supply etc. require improvements. Although the schools are there, due to backwardness and poverty of the people literacy rate has not increased. Because of the financial problems children are not being sent to the school. Most of the children are helping their parents by taking up some work to earn livelihood. Low literacy has affected the economy of the village.

Housing Condition : Nearly 55 per cent houses are 'Pucca' and 20 per cent are 'Kucha'. Rest of them are of semi-pucca type. There are five public buildings and 6 cattle sheds. The average size of the family is 7 persons per household. The area of plots on which houses are constructed vary according to the requirements of the family and their economic conditions. Their sizes vary between 500 sq ft to 1001 sq ft. Out of 85 households nearly 60 households have cattle heads with varying numbers according to their incomes.

Large dwelling houses belong to the cultivators. Majority of the labourers live in single room units. The houses are usually made of locally available (indigenous) materials such as sun-dried bricks with or without mud plaster. The roofs of most of the houses are of granite slabs. Mangalore tiles fixed on jungle wood rafters for roofing is a common feature. Flooring of cow dung wash is universal in this village. Most of the houses are in poor conditions having damaged walls, bent roofs and broken floors.

Being near to Bangalore city, the village economy should be changed by constructing some small scale industrial

units. Proximity to the city will bring urban influences which can help in improving the plight of its residents.

In order to create healthy and proper hygienic conditions and good atmosphere in this village it is essential that the concerned authorities should take steps to improve the drainage system first. The levelling of surface of both the approach road and the internal roads should also be taken up immediately as a part of planning. Latrines in the houses and in the community areas may help in keeping the surroundings clean. The water supply through pipes should be started. The three wells in the village are not enough to meet the water requirement of the entire population of the village. The water drawn from the wells is hard.

People in the village have started taking government loan. Already 32 cultivators, 20 labourers and few artisans and service men have received loans. The range of loan varies from Rs. 1000 to Rs. 4000. New constructions now have separate kitchen, store and living rooms.

Honnenhalli Village : A Planned Village

Bangalore District

Honnenhalli village is located on the State Highway. This village was selected for demonstration project by the rural housing wing, Bangalore. The construction work was organised on self-help basis. Only skilled work component was employed. Semi-detached pattern was adopted keeping density at 24 dwelling units per hectare with plot size of

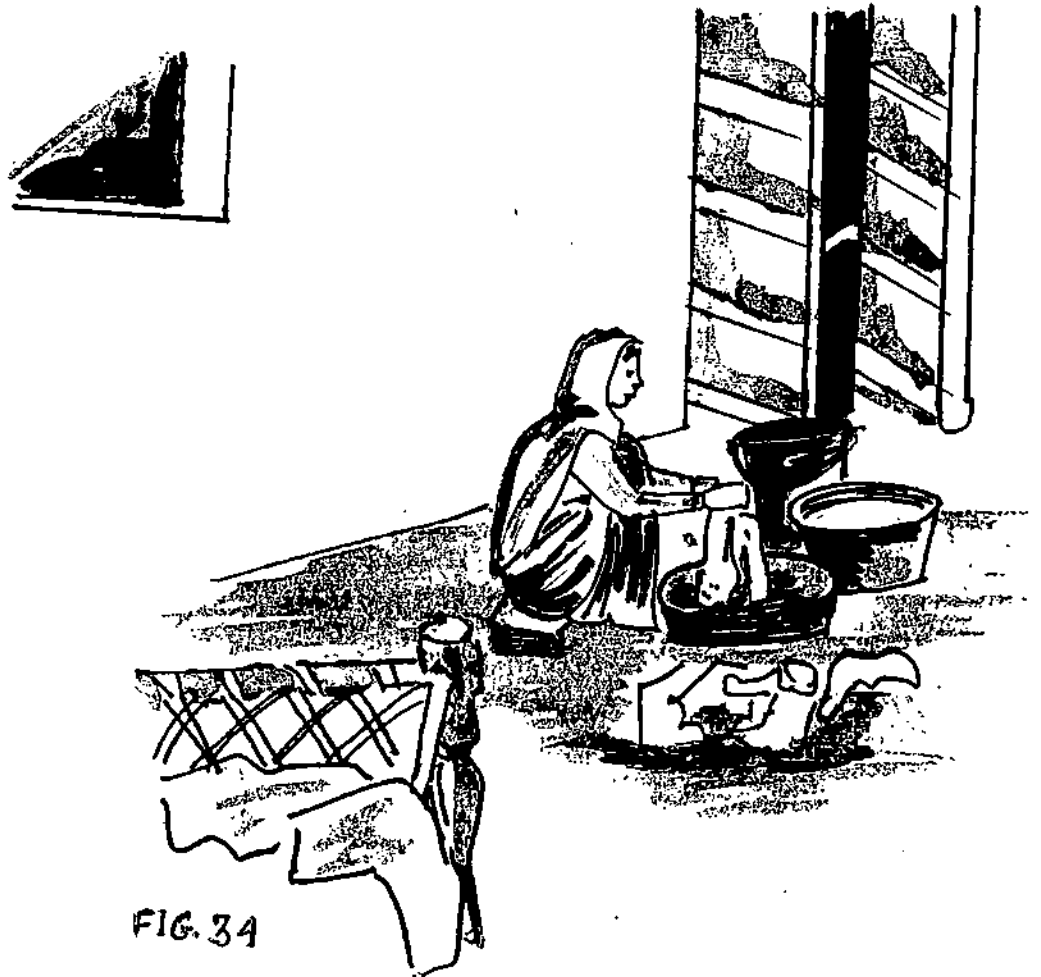
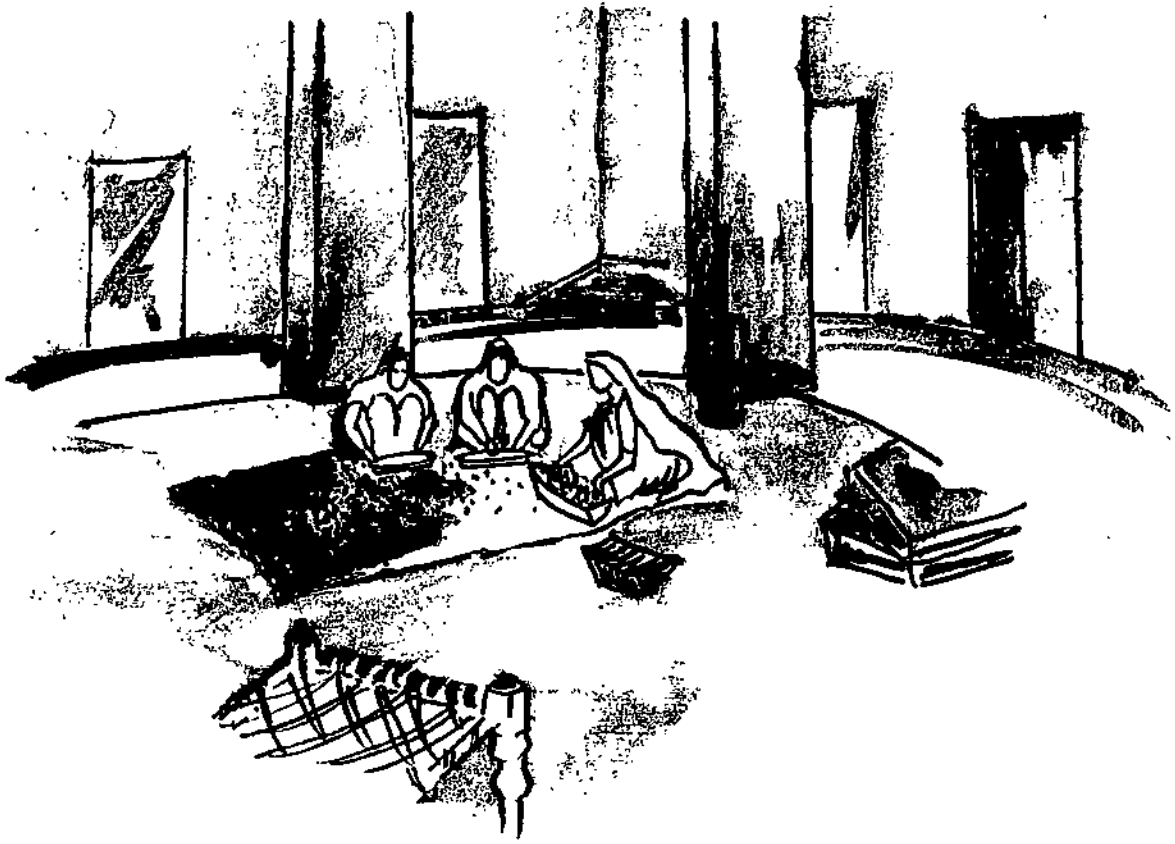


FIG. 34

9.15 m x 13.71 m. Each house will cost Rs. 2500. This project included aspects of environmental improvement, supply of drinking water, construction of all weather roads, drainage, sanitary latrines, street lights etc.

Ten houses were constructed under this project for demonstration. These houses are simple, modest, light structured, capable of expansion of one side. The unique feature of these house designs is that the plan is drawn upon the principles of modular coordination.

House Types in Uttar Pradesh

House types in Uttar Pradesh differ from place to place depending upon the location of the village and the economic condition of the owners. The size, height and standard of comfort indicate the economic condition of the peasant. The average large and spacious house of the Doab speaks of a relatively better economic condition of its occupants, in contrast to the shabby dwellings of the rest of non-Himalayan portion of this State. Humble dwellings show the poverty of the average peasant. In non-Himalayan parts, owing to the hot climate the 'angan' is an essential part of the dwelling. Most of the indoor work is done by the female members in this 'angan' (Fig. 34).

In almost all parts of non-Himalayan Uttar Pradesh (except the Hilly trans-Jamuna tracts), the building material used for walls is clay, mud-derived from the village pond. The absence of forests in the Ganga plains is obvious and is

responsible for lack of availability of timber for construction of houses. There are three main types of rural houses in the Ganga Plain of Uttar Pradesh. These are based on the economic differences of the people.

The first type of houses are large, two storied and often masonry made of durable building materials. These type of houses belong to landlords, banias and other rich people. The second category of houses usually belong to the average peasant. By its ground plan, size and structure it is the most numerous type in any part of Uttar Pradesh. Lastly the dwelling of the poorest class which consists of a single room hut thatched with grasses.

Ahmed (1978) has recognised eight different types of rural houses in Uttar Pradesh. These types are based on building materials, form of roofs, number of storeys, and general appearance etc. These are :

- i. Himalayan Type : (Stone-wall, two storey and slate roofed houses);
- ii. The Bhabar and Dun Type : (Wattle and daub houses);
- iii. North UP Type : (Mud wall and thatch roofed houses);
- iv. The West and South - West UP Type : (Flat mud - roof and mud-wall house);
- v. East UP Type : (Mud walled and tile roofed houses);
- vi. Bundelkhand Plain Type : (Mud wall and flat tiled-roof dwellings);

- vii. Sonpar Type : (Wattle and daub huts);
- viii. The trans-Jamuna stone walled houses : (Stones are roughly hewn and are piled up without any cementing materials. Stone is quarried from Aravalli outliers in Mathura. In Bundelkhand houses are made of boulders of stone picked up in the vicinity of hills.

Most of the houses in UP have square or rectangular ground plan. The rainfall decreases from east to west and north to south. So does the slope of the roof of rural dwellings in this state. A gradual change from the high-pitched tiled roof in the wet east to flat-tiled roofs of the drier west can be easily noticed. Through the building materials used in the regional characteristics of geology, soil and vegetation are well observed. Lack of ventilation is common. In lower Ganga plains, due to the light friable soils, recurrence of floods, waterlogging and humid air; mud houses are highly unsuitable.

In the Himalayan part of this State, the rural houses are double storied and are known as 'dopura makan'. The houses have four rooms two on the ground floor and two on the first floor. The usual size of the rooms is 14 by 28 mt. Each room has separate door. The upper floor is used by the family while the ground floor is used for cattle. In the Himalayan part the topography of the area expresses itself through the form of dwellings. Lack of level ground has

limited ground dimension of the dwellings which is compensated by double storied structures. The geological formation of the areas provide ample material for stone walls and slate roofs. Slate and limestone quarries occur almost everywhere. The absence of courtyard in the Himalayan house is partly due to lack of level land. Moreover, the cooler climate obliterates the necessity of passing much of their time in the open space provided by the 'Angan'. So in the Himalayan houses 'Angan' is missing.

House Types in West Bengal

An ordinary West Bengal village is hidden behind the trees. From a distance, Bengal villages look like a grove of trees having houses not in a particular row. They look like a cluster of houses separated from each other. In the Darjeeling hill, the houses are strung up along either sides of the main road which is often a narrow path meant for mule. The poverty of the family is evident from the type of the houses.

The villages generally consist of small groups of houses scattered throughout the agricultural fields - the main crops being jute and rice. Small clusters are common everywhere except for the market villages which are located near the rivers. The secluded and detached homesteads are the peculiarity of this State. The houses are usually surrounded by a belt of fruit trees such as coconut, banana, mango, jack fruit or bamboo. Now-a-days, a large number of small villages

can be seen along the railway tract.

The village assumes almost uniform aspect all over the West Bengal except for the Santals. They afford a strongly contrasting choice of sites. They select the highest and drier spot for their villages. They construct houses with an enclosure having a dwelling house, a granary, a cow and pigeon house and a piggery.

Although the villages in Bengal have some uniformity of pattern, yet the houses tend to differ in many respects. In hilly parts like Darjeeling the houses are divided into various parts like the cowshed, kitchen, and bed rooms etc. The roofs are of tin.

In Cooch-Bihar, the people live in thatched or tin roofed houses with walls of mat or grass and earthen floor. In Jalpaiguri, the houses are raised on bamboo posts or on sal posts. There are four to five huts made around a quadrangle. Each hut is used for different purposes such as cooking, storing of grains, sleeping etc. All the huts have only one door. The well-to-do have houses made on wooden posts having wooden doors. Well-to-do families have extra room for the guests and a room for puja known as Thakur-Ghar. The houses in the plains are different and are usually made of thick mud walls and thatched roofs with a bamboo frame. The construction work is mainly done by the owner and his family. The walls of the houses are made thick to keep the inside of the house cool and comfortable in all the weathers.

Each house is a unit composed of baithak, courtyard, bedrooms, kitchen and cattle shed. The entire household is very neatly plastered with mud and a layer of cow-dung.

The size of the villages varies from 150 to 200 houses all over in the plains. The Delta part in West Bengal, however, has a different type of settlement pattern. They have frame of bamboo which is set up on the floor, keeping it raised above the ground to afford protection from inundation. In some places the walls are covered with mud while at other places plaited grass or matting of bamboo are used instead of mud. Sometimes they are covered with clay and cow-dung. The roofs are slanting, with gable-ends closed. Very rarely the gable ends are left open for ventilation. The houses very near to the river beds are light and are meant to provide shelter. The property is removed as soon as the river water rises to endanger their lives and huts. It is because of this that the walls and roof of the houses are made light.

The roofs of the houses vary according to the type of materials used. They are of three types : (1) Pucca houses having flat roofs of brick and masonry; (2) Kutcha houses thatched with straw and (3) Khapra - a house with tiled roofs. The thatched roofs may be ekchala, duchala, and chauchala means, houses with one, two or four thatches. The climatic conditions prevailing in the area make it necessary for them to put a heavy thatch on the roof. The rainfall in this region is so heavy that unless a very heavy thatch is put, water is likely to leak through. In this state, the sleeping

apartment is known as sobar-ghar. Kitchen is known as ranna-ghar, and the cattle shed is gowal-ghar. The house has threshing place. The thatch varies from 10 cms to 20 cms., in thickness. The thatch rests on a frame made of sal poles, or bamboos which is supported on rough timber poles. The poor sleeps on the floor while the rich have 'taktaposh' made of wood. Bamboo cane is used for making of baskets. Poor man have very little furniture. The brass lota, a kalsi and few thalas are all the crockeries which the poor men possess. There is no drainage system in the villages of Bengal because the rainwater from the residential areas falls into the nearby ponds and agricultural fields. The internal roads are mostly kutcha. A mud road is generally provided between two rows of houses. Corrugated iron sheets, cement, etc. are used for rich people's home in some villages and are brought by trucks or by carts from outside. In some villages burnt bricks are also being made. But this is a recent development and is confined to very few villages. In villages the scheduled castes, and muslims are settled away from the Hindus. They live in very simple houses.

More recently, the housing wing of the State Government took up a village for implementation of the government plans, to improve the housing condition of the landless labourers. Village Polba had been chosen for the said purpose. A detailed account of this village is given here.

Polba Village

Polba village is located in Hooghly district on the

main Delhi-Howrah Highway and is easily approachable. The village has been taken up by West Bengal Government nearly two decades back. The project of housing in this village has been completed recently with the active help of the local authorities. The landless labourers contributed self-labour for the construction of houses on the plots allotted to them.

A total grant in aid of Rs. 65,000 had been given by the National Building Organisation. Out of this amount, Rs. 25,000 had been utilized for providing better environment which include provision of sanitary rural latrine each costing Rs. 300 and Rs. 40,000 had been spent for the construction of 20 houses, each costing Rs. 2000. (Fig. 35).

Paving of streets and improvement of inner roads were also taken up as a part of this project. Pucca drains were constructed and tube-wells had been provided by the authorities for fresh drinking water. A hall locally known as Mandap had been constructed to serve as community service. Open space was developed by planting trees.

The bricks were locally manufactured by digging the ground which was later converted into pond for storing water.

The main building materials used are given below :

- i. Foundation : Lime concrete and burnt bricks;
- ii. Super Structure : Burnt bricks in mud mortar;
- iii. Floor : Earth with mud plaster and cow-dung plaster;
- iv. Roofing : Tiled roofing over bamboo rafters and split bamboo;

- v. Windows and Doors : Local wood;
- vi. Finishing : (a) Interior finishing is done with mud plaster with cow dung leavings and two coats of white wash, and
(b) For exterior finishing mud plaster with husk.

The houses have 25 sq mts plinth area. The size of the plots is 48 sq mts. In this village the cost of construction of each house is Rs. 2000. These are four sloped huts, locally known as char-chala.

The house has two rooms and a kitchen space. The houses are built in two rows, being separated by an open space. In front of the house is a 2.4 mts wide road. The tubewell lies in the middle of the open space in between the rows of the houses.

House Types in Laccadive, Minicoy and Amindivi Islands

The pattern of distribution of houses is same in all the islands except Minicoy where the houses are arranged in linear pattern on two sides of footpath. On other islands, the houses are scattered uniformly. The inhabitants of all the islands are predominantly muslims. The structural pattern of the residential houses of the natives found in all islands are more or less same. All have four sloped houses with rectangular ground plan. The rich people give tall fencing of about 6 m high made of plaited coconut leaves, around their houses.

For the construction of walls corals are cut into required size and used. Their plinths and walls are plastered with cement. Most of the houses of this type have roofs of tiles or asbestos sheets. Rafters are made of the trunk of coconut tree. Timber used is brought from outside. Such type of houses belong to the rich people. The roofs of the houses are low and rooms are not properly ventilated. Each house has a spacious front room, which opens into a corridor. On another side of the corridor, bed rooms, kitchen and store are constructed. Kitchen is generally spacious and has two sections, one is used for cooking and the other for storing.

Economically backward people live in small huts having walls of plaited carjan leaves. The roofs of such houses are of thatch. The houses never face west because of the hazards of rain and wind which sweeps the island during monsoons.

In addition to the residential houses, there are religious institutes and commercial establishments all over. Each mosque has a tank and a grave yard. The commercial establishments are interspersed with the residential houses. The buildings look like the residential houses. All mosques look alike and are rectangular in shape. They have sloping roofs on four sides which are made of tiles. Small mosques have thatched roofs. The water level is about 6 m below the surface. Numerous wells are dug, for drinking water and separate ponds are found here and there for males and females.

Wells are found all over the islands.

House Types in Chotanagpur

The entire Chotanagpur, except the North Koel valley, receives a rainfall of more than 100 cm to 150 cm. Therefore, the roofs in this region are characterized by a higher pitch. Straw is the most widely used thatching material which is taken from paddy. The size, elevation, standard of comfort and architectural designs depend upon the economic classes. The lowest economic class is represented by the Birhors, Birjia, Korba and Pahariyas who build the most rudimentary type of houses. The second type belong to the landless labourers, scheduled castes, and other service classes. Their houses are generally one room structures. The third category belong to the well-to-do people having land. They are better type of houses having two to three rooms in average - some of these houses have five rooms. The fourth category of houses belong to the ex-zamindars, moneylenders, business class known as Sahus and Banias and the village chief. The houses of these people are larger, roomier, stronger and better finished.

Ethnic factors bear upon the various aspects of rural dwellings. Non-tribal houses are better and convey a sense of superiority. Generally, the rooms are well-ventilated and there is often a space between the wall and the roof which allows a passage for air.

The walls of Chotanagpur houses whether made of mud, or logs are lower than those of the plains. The height vary from 2 to 2.5 m and seldom above 3 m. The heavier precipitation necessitates a higher pitch. Torrential rains with strong winds strike against the walls. The entrance is narrow which looks like oblong hole.

Mud is the most predominant wall material in the non-tribal areas. In south-western part of Ranchi, 99 per cent of the houses are of mud walls. In the Damodar valley, burnt bricks are significantly used for construction of walls of the houses. In Dhanbad district, 31 per cent of the rural houses have brick walled houses.

Vegetational substances such as leaves, grasses, bamboo and timber are used for walls of the houses in Deoghar, Rajmahal hills, southern Singhbhum. Rajmahal has 20 per cent houses of vegetational materials. The use of stone as building material is unknown to the people of Chotanagpur.

Another characteristic which is of universal nature is the plentiful use of timber and wood. Even in such houses where the walls are made of mud, roof is supported by numerous vertical poles. In almost all the houses of the districts of Hazaribagh, Ranchi and Palamau, the superstructures including roofs rest on wooden poles which together makes wooden frame for the houses.

In Dhanbad district, use of unburnt bricks is more due to the economic factor. Those who cannot afford to buy

burnt bricks, make walls of unburnt bricks duly plastered and properly white washed which give a neat look of a pucca house.

The villages in the reserved forests usually get the supply of iron and asbestos sheets from the Forest Departments for building purposes. Corrugated iron and asbestos sheets are manufactured at Jamshedpur and Jhinkpani. Being a local product the sheets are available at cheaper rates.

Four categories of roofing materials are popular in their respective areas. Tiles and thatch are popular in the western and eastern parts respectively. The brick and lime and corrugated iron or asbestos sheets are most preponderant in various combinations in other parts of the plateau.

Thus the variations in building materials are areal. The houses differ in their ground plan, structural designs and architectural beauty. These differences are mainly due to the physical environments and ethnic composition of her population. The ethnic characteristics of the houses attribute variety to the rural houses in Chotanagpur.

Most of the western part of the State is dry. In the north and north-east are the fertile lands. In the south and south-east is the plateau which is full of hills and forests, traversed by rivers, such as Chambal, Banas, Kali, Parbati and Banganga. The wide valleys of the rivers have good fertile soils.

The geographical setting has definite bearing on the

natural vegetation of the area. Stunt vegetation and shrubby bushes are very common in the areas of scanty rainfall. The slightly better rainfall areas have Babul and Khejra in abundance. The plain and plateau regions of the State where rainfall is plenty, there are good forests. The Vindhyan formations have endowed this State with a variety of building stones. The store deposits of the State range from red and fawn coloured sand-stones. Alwar and Ajaibgarh series provide slabs and free stones in large quantities.

From above, it is clear that the geographical setting of the State has strong impact on the house types. The materials available for constructions vary from one place to another according to the geographical environments. The financial resources determine the layout of the houses. Social factors to play a very significant role in determining the type of house to be constructed.

In this State, a large variety of houses are constructed. Some of them are described below :

Jhumpa : A Jhumpa is a circular house with 3 to 4 m diameter. The roofs are thatched which are formed into conical shape.

House Types in Rajasthan

Rajasthan is a land of palaces and citadels. The picture post cards have a large variety of magnificent buildings. Dwellings of the poor are entirely different from what is

depicted on the picture post cards. Dwellings of the poor in this State show a wide range of dwellings having a large variety of style and layout as well as the materials used. The materials used and the designs depend on the local geographical factors and the availability of the materials.

The settlements in this State are in the areas where drinking water is available. The hilly and forested areas are settled by tribes who construct their houses in isolated hamlets. Only in the large villages there is a system of lanes and by-lanes. Most of the villages have shapeless clusters of houses with irregular streets.

In Rajasthan, different kinds of building materials are used for the construction of rural houses. Their spatial distribution depends on the geographical environment of the area. Therefore, it becomes very important to know the physiographic units of the State. The Aravallis are the oldest mountain chain of India and extends over a length of 670 km running in north easterly and south-westerly direction. The only rainfed stream is the 'Luni' which rises in the Aravallis in south-west of Ajmer and is lost in the salt water marshes of the Runn of Kutch. The water in the lower region becomes progressively saline. The villages become deserted when the water dries up and becomes undrinkable. The walls are of mud mixed with pieces of grass. Such houses belong to the poor in the arid region of the State.

Mud and Straw House : In semi-arid areas Babul and Khejra are available for beams. Mud and straw are used to

fill up the gaps in between the wooden frame. Walls are mostly of mud mixed with straw. Such type of houses have slanting thatched roofs. Grass, leaves, reed and bamboo are used for thatching the roofs. Beams are acquired from the trees like Babul (*Acacia Arabica*), Khejri (*Prosopis Spicigera* Linn), Neem (*Dal Bergiasiss*) and Beri (*Zizyphus Jujuba*). Such type of houses are found in Barmer, Ganganagar, Bikaner, Churu and Jaisalmer. In some districts, nearly 67 per cent of the rural houses are of these materials. The Luni Basin provides enough mud for construction of mud houses. Sun-dried bricks and crudely baked country tile houses are also made in some areas which give a better look. Such type of houses belong to slightly well-off people of the village.

Stone Houses : Sandstones of Barmer and Jodhpur, Jurassic limestones of Jaisalmer, limestones of Upper and Lower Vindhyan system and a large variety of building stones of Jalor, Jodhpur and Nagpur are being used for the construction of rural houses. Stone slabs from the Aravallis are used for roofing. The use of stone gives a massive appearance to the rural houses. These houses have rectangular layout and have flat roofs.

Burnt Bricks and Tiles : These are important building materials in the eastern and north-eastern parts of the state, because lime is abundantly available from Vindhyan rocks. Rajgarh is important for houses made of burnt brick walls and tiled roofs. Such houses are durable. They have rectangular ground plan with gabled roofs. Such type expresses the

prosperity of the rural landscape and are occupied by the people of Upper Classes. In recent years, industrial materials such as corrugated iron and metal sheets, asbestos sheets as roofing materials are gaining importance in some districts. Nearness to Punjab helps in getting plenty of wood for construction purposes. The industrial materials mentioned above are important only in the areas near to the urban centres. Other areas are still backward and use traditional materials.

Village Basani (A Case Study)

Basani village is located in Jodhpur. This village has a dispersed pattern of houses. There are nearly 300 houses which are located in different pocket areas of the village. They belong to different type of people such as Jats, Bheels, Bhangis etc. The family size of a well-off household varies from 4 to 6 members. The Bhangis have larger family size and have 6 to 7 members. Most of the children go to school. The village has electricity. The Basani village is located on the granite rock having gentle slope. Many people of this village work in the stone quarries.

There is another small village near a small local river named Jojari. It has only 12 houses mostly made of mud walls and thatched roofs. The roof is changed after every 3 to 4 years. There are wells which have water nearly 3 m deep. This village is surrounded by the sand dunes which have vegetation on them. The main vegetation in this village is Kher,

Khejri, Babul, Kherari etc. Since the village is not very well-developed, it is poorly connected with other areas. The construction of houses is done by using materials which are locally available. Khejri, Babul, Kherari trees provide beams and rafters for all constructions in this village.

House Types in Tamil Nadu

Residential Pattern : Segregation of lower castes like Pallas, Parayas or Chakkilias referred to as the 'Cheris' has been followed for ages. The Brahmins are found in significant numbers, who live in segregated portion of the village known as 'Agraham'. Now 'Agraham' has become a rarity. They live with other high caste non-Brahmins. In spite of the fact that untouchability is dying away, the closer living of high caste Hindus and the interior castes has still not started taking place.

The House Types : As in any other areas, the house types vary according to the climatic conditions, type of terrain economic condition and the available building materials. The climatic conditions in Nilgiri district and Kodaikanal Taluk of Madurai district are different from what are the conditions in the rest of the area in this State. The houses in Tamil Nadu are of three types viz., (1) Thatched huts, (2) Small and medium sized tiled houses and (3) Large tiled houses having terrace.

Thatched Huts : These type of dwellings are in majority

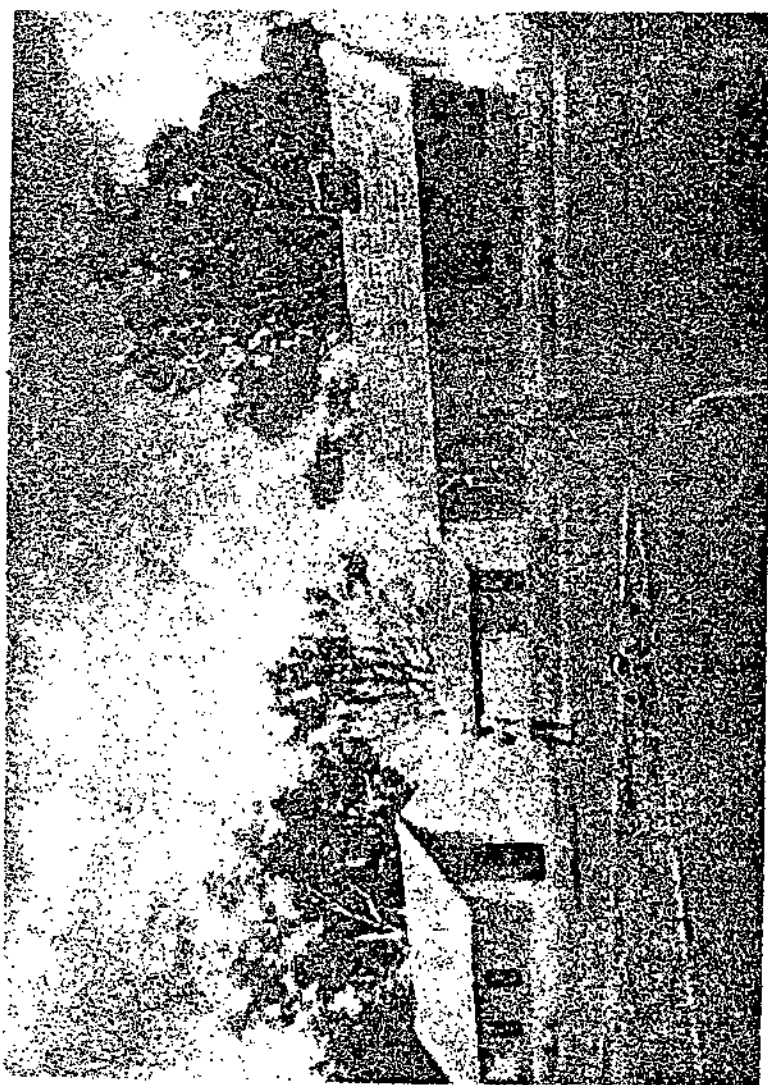


FIG. 36

and are universal in their distribution. Such type of houses belong to the poorer section of the rural population consisting of small land holders, the agricultural labourers, artisans etc. Most of those are single room huts. There is an open verandah in the front which is covered by the projection of the roof. The raised platforms of mud in the front part, of the houses locally called as Thinnais are common. These platforms are nearly 0.5 m above the ground. The entrance of the huts is low which is nearly 1½ m. The walls are of mud and roofs of pamyra and plaited coconut leaves. The thatched roof is supported on a bamboo frame. The flooring is also made of mud and is coated with a thick layer of cow-dung mixture.

Small and Medium Sized Houses

Tiled Houses : These type of houses belong to middle income group. These are generally two-roomed or three roomed structures. There is an open verandah in front of the house. There is a proper kitchen and a store room which lies in the rear. The walls of the houses are made of burnt bricks and are plastered with 'Chunam' and red soil. For roofing country made riles are more common (Fig. 36). Mangalore tiles are an exception. The doors and windows are made with local wood. There is some open space either in the front or back of the house which is used for the cattle. The houses are not properly ventilated and are usually having only one or two windows for security reasons.

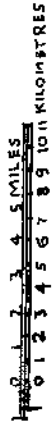
Large Houses : These houses are owned by the affluent section of the village society. They have a number of living rooms and an inner courtyard in the midst of the house. The rooms have covered verandahs in the front which open to the courtyard. Their ground plan is mostly square. Very rarely it is rectangular. The walls of the houses are made of burnt bricks and cement mortar. The foundation is of granite stone. In big tiled houses, the roof usually consists of Mangalore tiles. The frame of the roof is made of timber rafter. The floor is of cement. Such type of houses are owned by the rich people such as moneylender, landlords and merchants. The small landlords and merchants, however, use country made tiles for the roofs.

Ground Plans : Large houses in Tamil Nadu have rectangular ground plan. In the tribal areas, circular ground plan and conical roofs can be seen. These are exception to the general pattern of the houses. In thatched huts, the roof normally consists of 2 inclined planes which meet at a ridge at the top. In tiled houses, the roofs have 4 slopes. The front slopes are broader than the side ones.

House Types in Delhi

The villages in Delhi have grown spontaneously with time according to the physical and cultural aspects of their respective regions. Its physical variations can be described in its five different types. These are : (1) the ruins and boulder area known as Khandrat; (2) Kohi (hilly); (3)

UNION TERRITORY OF DELHI PHYSIOGRAPHY



BOUNDARY
RIVER

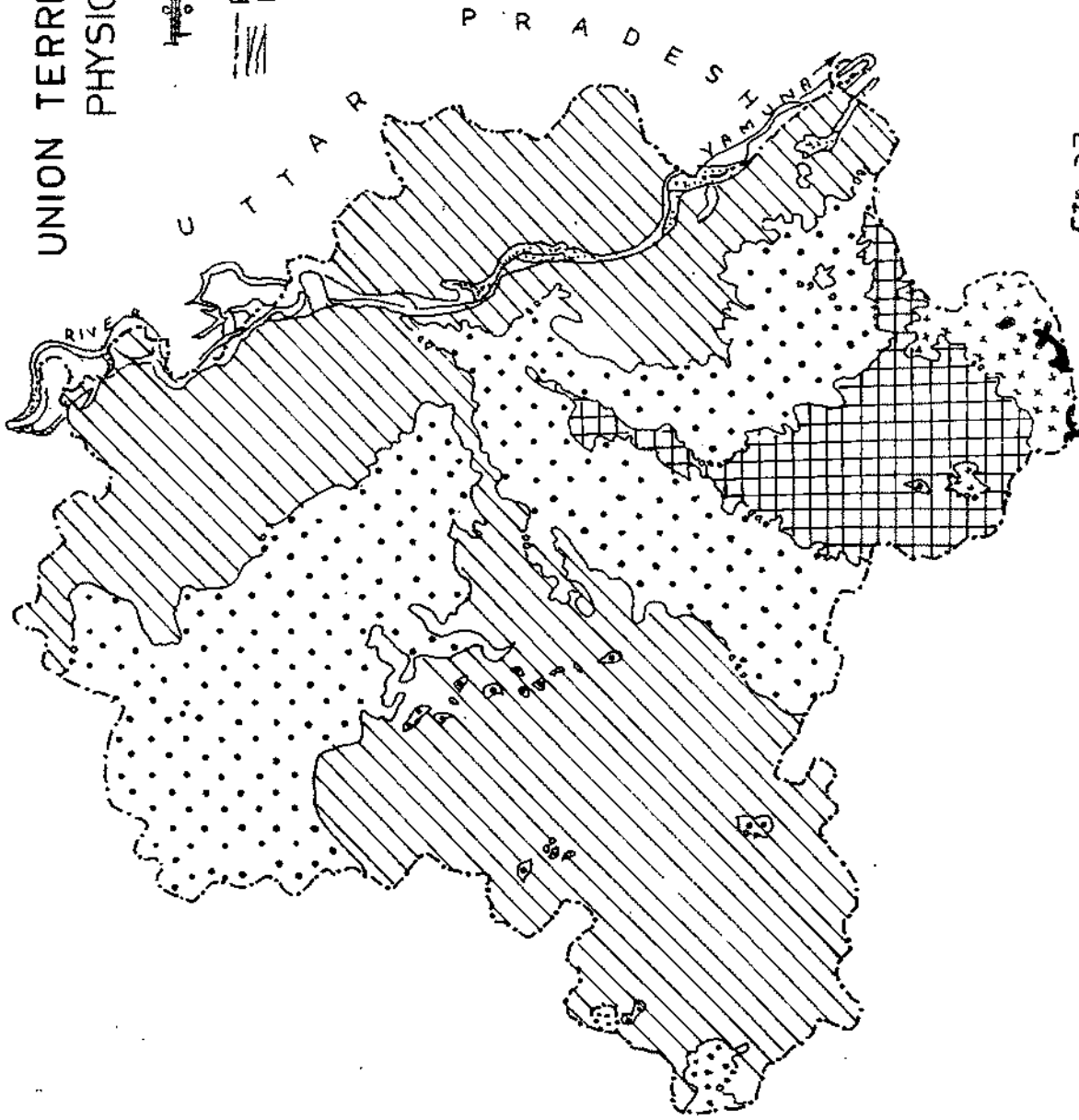
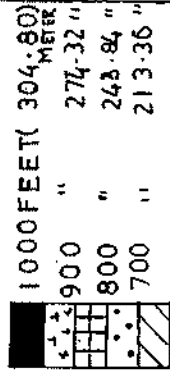


FIG. 37

Khadar; (4) Bangar, and (5) Dabar.

The Khandrat area of Delhi (Fig. 37) is characterized by ridge, the last spur thrown by the Aravallis towards the rich plains of the country. This area has nearly 32 villages in approximately 22.5 thousand acres of land; Kohi area has 44 villages in its 74 thousand acres. This region lies towards the south of the union territory near Tughlakabad and Mehrauli. The Khadar is lowlying area lying in the river and gets flooded when the river is in spate and remains so till the flood recedes. This area has 101 villages with 75 thousand acres of land. Bangar is plain and fertile land of Delhi territory. It is well levelled and drained by a number of canals which irrigate the fields. The canals are taken from western Jamuna. The area has 55 villages with total land of 102 thousand acres of land. The Dabar area is a depression in which rain water from the western side of the ridge and near by districts accumulates. This water flows into the Najafgarh Jheel. This area has 100 villages covering 92 thousand acres of land.

Distributional Pattern of Villages in Delhi

The villages of Delhi Union Territory are near the main roads which contact them very well with the city's networks of good highways. Amongst the most important trunk roads, the Grand Trunk Road, Rohtak Road, Mathura Road, Najafgarh Road, Mehrauli Road, Dairy Road, Mehrauli-Gurgaon Road, Mehrauli-Badarpur Road, Najafgarh-Nangloi Road are

important. There are concentration of villages along these roads which circle the city. Most of these roads and villages had been there for centuries for political and trade reasons. Some villages which are not on the highway lie at a short distance of the roads. There is a network of villages in the area around Najafgarh, Narela, Mehrauli and Shahadra. Other areas are relatively sparse in village locations. The villages in Kohi (hilly) area are also located in somewhat irregular manner. Being a capital city villages around Delhi are well connected as compared to other areas of the country.

The villages are invariably located at higher level than the lands on the surroundings. In number of cases their habitation sites are selected by trial and error method. For example, Nangal Thukral village was shifted nearly 3 kms from its original site near Bawana. Similarly Rangpuri village was originally one km away from its present site. The former site lies in the ruins of the original village settlement surrounded by the stone quarry area in its south and east. Chalk quarry lies in its vicinity nearly 500 m away from the village site.

In the Bangar, Khadar and Dabar areas, the villages are located at slightly higher level due to hazards of floods. Many villages are washed out by floods. In one particular year, the floods caused extensive damage resulting in shifting of population.

The Khandrat and Kohi regions have somewhat different type of village sites. Most of them are located at the base

of the hills and the fields are located on one side of the village (village being higher on the slope). Consequently, they are located on one side of the village jurisdiction. On the contrary, the residential blocks of the villages at Bangar, Khadar and Dabar areas are on higher spots surrounded by low lying agricultural fields. They are mostly in the midst of the village jurisdiction. Dera and Mandi are located in one corner of the village jurisdiction while south Thatikra, Ghalipur, Nangal, Thukral and Puth Khurd are located in the middle of the village jurisdiction.

Residential Structures

Like other villages of India, the villages in the Delhi Union Territory lack planning, and have haphazard alignments. Only a few villages like Sultanpur and Bankner have planned layout. The structures are constructed with proper organization. The habitations look like shapeless clusters of houses along irregular lanes and bylanes. The tendency of most of the villagers to acquire more land from the streets has resulted in encroachment into lanes and bylanes. The internal street and road system looks like a network of narrow zig-zag gali or alleys.

The villages are inhabited by people belonging to various castes and religion. Each village is usually dominated by one or two castes because of their better economic conditions. It is therefore, common to refer to a village as a Jat village or a Brahmin village. In many villages,

there is spatial segregation according to their position in their social ladder. This has resulted in caste clusters in the villages which are located separately isolated from each other. Though there is certain amount of social planning, it is difficult to remove these physical segregations. The improvements in the lanes and bylan-s of the old part of the villages are not satisfactory. The government rules imposed recently, however, have helped to some extent, in the improvement of plight of the poor and the tenant farmers of the villages.

Building Materials

Both the Kutcha and Pucca houses dominate the villages of Delhi. Semi-pucca houses are also common. The difference in the use of building materials in various physical tracts are due to difference in their availability and the physical character of the area of their locality. Pucca stone houses are constructed in the hilly tract of the Union Territory. It is because stone is abundantly available at cheaper rates. The poor uses mud. In some areas burnt bricks are used because brick kilns are found near the village. The well-to-do use brick and cement while the poor use mud and bricks. But the mud and thatched houses in Delhi Union Territory are relatively few. One can hardly come across such kutcha houses.

Size of Houses

The structures of all the houses in Delhi villages have

one to three rooms. Very few houses have more than three rooms. Such type of large houses belong to the rich farmers or to other affluent people of the village. Very well-to-do people such as head of the village have four to five rooms in average. Such type of houses give urban look. The materials used for their constructions are of superior quality and reflect the urban living styles. The designs and skill used display wealth, social status and urban taste of the owner. But the number of such houses are relatively few.

Pooth Khurd Village

The physical setting of Pooth Khurd has its impress on the economic activities and prosperity of its residents. The houses also get affected by these factors. The location of the village (see Fig. 38) clearly reveal that the land of this village is remarkably flat with an average elevation of 200 m. The area is in fact, a part of the great northern plains of India. The flatness of the area and its nearness to the city facilitate the exchange of ideas between the city and the village. The village is quite well influenced by the city life which, is evident from the house types as well as the manners of the people. This village has about 7500 people living in nearly 1000 houses. The village has a population density of about 2000 persons per sq km.

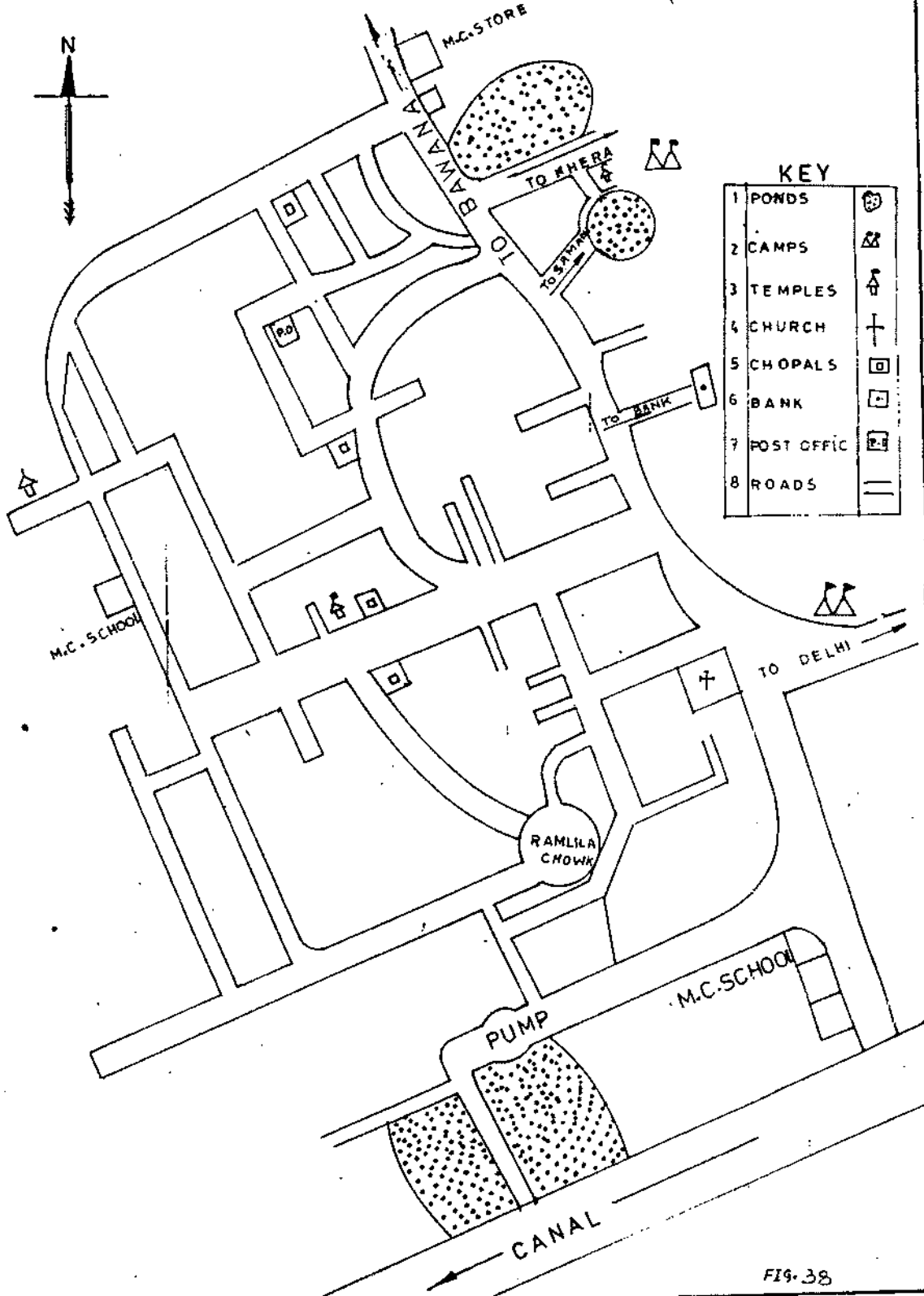
Morphology : The village does not have good roads of any regular shape and size. Most of them are narrow with

brick surfacing. Like any other village around Delhi, this village has unplanned roads and lanes. Therefore, the houses seem to be haphazardly placed along the lanes and bylanes. Some of them being blind having house blocking the lane. The encroachment of houses on the already narrow lanes is a common phenomenon and this makes the conditions even worse. The lanes are so narrow that if the houses were evenly surfaced, they are not accessible to cars. However, this is a common feature to all the villages of India. In this village the lanes are crudly laid with bricks without any use of tar. Like, other villages this village has also got open drains. Mosquitoes thrive on them causing health hazards to the village people.

House Patterns : Most of the houses of this village are pucca using brick as the main building material. Nearly 75 per cent of the houses are pucca made of bricks and lime or of bricks and cement. Cement plastered walls are few. The semi-pucca houses have mud and bricks and normally belong to economically weaker section of the village society. Most of the floors of pucca houses, are made of bricks and cement, plastered with cement. The middle class families have floors of their houses made of brick and cement with cement plaster on it. The reasons for extensive use of burnt bricks are :

- (1) Nearness to Delhi city from where modern building materials can be easily brought;
- (2) The soil around the village is highly suitable for making bricks;
- (3) People belong to high income group due to trade between the city and the

LAY OUT PLAN OF VILLAGE POOTH-KHURD



KEY

1	PONDS	
2	CAMPS	
3	TEMPLES	
4	CHURCH	
5	CHOPALS	
6	BANK	
7	POST OFFICE	
8	ROADS	

national capital. The village literacy rate is very high (nearly 75 per cent people are literate); (4) Urban influence to attract people to modern living and (6) The village has brick kilns on its outskirts.

Pucca roofs and walls of the houses belong to the rich people. The ground plan of these houses is either rectangular or square shaped. In case of two storeyed house similar pattern of rooms is observed. All houses have verandahs. Few houses have store rooms, toilet and a separate bath room. Within the house, the drains of kitchen and bathroom are open. They give ugly look. The households have pets and buffaloes and therefore sheds are constructed. In most of the houses rooms are used for more than one purpose. Only the Harijans and some economically poor people like the potters cobblers, weavers have no pets or cattle. Therefore, they do not have cattle sheds.

Castewise segregation of households is lacking in this village. The Harijans, however, are segregated who live in an isolated block in the village (see Map 38). People belonging to other castes live in each others neighbourhood. They follow their own religion and still live in harmony and peace. A good deal of brotherhood prevails among them. As compared to the Hindu caste block, the Harijans have very irregular and narrow lane pattern which is due to their poverty. They have to live in single room houses. The Harijan houses are of bricks and mud. The rooms of these houses are small, dark, dingy and crowded.

All types of houses can be seen in the main 'Abadi'. The Jats and Brahmins are the dominant castes in this village and have bigger houses having four to five rooms. Their houses have two to five rooms and have two to have two to three storeys. Other caste groups like weavers, school teachers, a Delhi Transportation Corporation Employee etc. have two to four rooms.

The village fortunately has electricity and water supply. There is a bank and a hospital in this village. The bank provides the much needed capital to the enterprising people who wish to improve their economic lots. The rate of interest is minimum payable on easy instalments. There are some improvements in their economic conditions due to their exposure to urban life and higher education. The schools are under Delhi Board and the students come to Delhi for higher education. With this the traditional rural occupations are on the decline, people belonging to all strata of village society such as Jats, Brahmins, Baniyas, even Harijans get attracted towards non-traditional occupations. Out of 10 houses interviewed 2 are farmers, 4 are school teachers, one is clerk and 3 are DTC employees. There is a diversity in occupation pattern, which ranges from farming to works in the railways and telephone departments. Interestingly enough the households in this village are becoming single units. Out of 20 households only 5 are joint families. This trend is on the increase. The shift from traditional occupations will also bring radical changes in the house types in future.

Already lot of awareness for modern living has been inculcated among the village people.

Conclusion

From this village, certain interesting deductions can be made. It can be called as a modern village of India. With a very high percentage of literacy rate (75 per cent), good transportation and communication system, the village people are very much aware of the developments that are taking place in the adjoining areas around them and in the country as a whole. The house types (nearly 90 per cent pucca and 10 per cent semi-pucca) indicate a trend towards formation of modern society. The occupation structure also indicate high percentage of people engaged in non-agricultural pursuits. The farmers of this village are well acquainted with modern inputs like irrigation, HYV seeds, pesticides etc. which they purchase from Narela and nearby towns. Many farmers have given their land on rent while they themselves are engaged in non-agricultural occupations. These are indicators of their modern living more or less synonymous to urban areas. But the greatest constraint is the unplanned growth of this village with its narrow lanes, lack of sanitation etc. The village requires proper designing, unless planned growth is ensured there will be little change in the village scene. Proper extension of village 'Abadi' area may help in new constructions in a proper and planned way. This will change the village scene to some extent.

Table 8 :Percentage of Rural Houses put to various uses : 1971

State	Vacant Houses	Residential		Non-residential		
		Wholly	Partly	Business	Factories	Others
India	6.03	73.09	2.15	2.70	1.34	14.72
Andhra Pradesh	5.89	74.19	2.82	2.08	1.13	13.88
Assam	2.06	90.81	1.57	2.17	1.61	1.78
Bihar	2.96	78.85	2.08	2.19	1.11	12.81
Gujarat	9.90	65.97	1.80	3.13	1.44	17.84
Haryana	5.31	65.14	1.19	3.00	0.53	24.80
Himachal Pradesh	8.40	72.59	2.42	5.52	0.96	10.09
Jammu and Kashmir	8.71	43.42	1.10	4.44	1.57	40.78
Kerala	7.08	74.45	0.61	8.03	1.63	8.20
Madhya Pradesh	4.85	71.98	4.36	1.41	1.31	16.08
Maharashtra	7.63	71.25	2.14	2.56	1.56	14.83
Manipur	3.24	79.82	2.53	1.60	1.81	11.00
Meghalaya	3.87	87.73	1.40	1.24	1.54	4.24
Karnataka	7.91	73.25	2.45	2.90	2.91	10.59
Nagaland	3.55	78.82	0.68	1.50	1.02	14.42
Orissa	4.29	75.09	2.74	2.55	1.85	13.48
Punjab	6.93	67.87	1.93	3.30	0.65	19.33
Rajasthan	13.52	68.99	1.94	3.10	1.41	11.04
Tamil Nadu	7.25	82.49	1.98	2.37	1.29	4.63
Tripura	2.32	90.35	0.85	3.96	0.65	1.88
Uttar Pradesh	4.79	64.85	1.54	2.26	0.87	25.68
West Bengal	3.33	89.01	1.96	2.96	1.44	11.31
Andaman and Nicobar Islands	6.62	77.60	3.99	3.69	1.18	6.92
Arunachal Pradesh	4.93	89.38	1.00	2.93	1.62	0.15
Chandigarh	7.73	66.19	1.29	3.31	0.46	21.03
Dadra and Nagar Haveli	3.65	82.75	1.88	1.15	0.06	10.25
Delhi	6.90	68.10	1.66	3.08	0.72	19.55
Goa, Daman and Diu	9.74	65.16	1.68	5.11	2.10	16.22
Laccadive Minicoy and Amindi vi Islands	6.77	30.12	18.70	6.15	3.58	34.68
Pondicherry	4.44	84.89	1.50	4.47	1.55	3.16

Source : Compiled from Census Tables on Housing, 1971.