A Literature Review of Early Housing Units: History, Evolution, Economy and Functions

Rumana Khan Shirwani
Muhammad Kamran
Ayesha Mehmood Malik

Online Pub: Fall 2019
Article DOI: https://doi.org/10.32350/jaabe.22.04


This article is open access and is distributed under the terms of Creative Commons Attribution – Share Alike 4.0 International License

A publication of the
School of Architecture and Planning
University of Management and Technology, Lahore, Pakistan.
A Literature Based Study of Early Housing Units: History, Evolution, Economy and Functions

Rummana Khan Sherwani*
Muhammad Kamran
Ayesha Mehmood Malik

Abstract

Housing and its evolution constitutes an important study for all councils. This paper limns the encyclopaedic timeline of housing from the times of pre-urban dwellings of nomadic, semi-nomadic, and sedentary agricultural societies to the present day, while focusing on the chunks of a comprehensive architecture, history and anthropology. A detailed literature review made it evident that early urban dwellings were insular and extended around an internal patio. Lately, these housing forms lasted in the original metropolitan house arrangements in the Islamic world, China, India, Latin America, the Iberian Peninsula and the Indian subcontinent like Indus valley civilization. After the fall of the Roman Empire, there was a drift towards peripheral house forms which engaged the early forms of urban settlement in the world today. The study also revealed that the Middle Age dwellings functioned as both residences and work places, yet with the passage of time the buildings became more functionalized, thus dividing dwellings and work places from each other. With the advent of the industrial revolution, there were remarkable variations in the suburban expansion of housing in the western world that became isolated along socioeconomic outlines and the housing types diverged with less populated, single-family communities at one extreme and densely populated, high-rise, multi-family apartments at the other extreme. It is concluded that the side effects of the American transportation system have resulted into rigorous peripheral dwellings which includes ineffective use of land, air contamination and the city degeneration suggesting solutions based on a rich variety of historical examples.

Keywords: dwellings, economy, evolution, huts, socioeconomic factors, huts, urban forms

Introduction

The history of housing always raises many questions such as how did cities originally emerge, where were they situated in the beginning, how did they change with the passage of time and what changes they brought. The skill to geographically locate various human populations over the course of time and calculate their size
has helped us to understand the evolving characteristics of human species including human connections with the local setting. A study revealed that the early documented populations for all urban settlements (huddled around ancient Mesopotamia known as the) recorded between 3700 B.C. and 2000 A.D. as known as that Mesopotamia is the foundation of civilization. Moreover, this study showed that the centre of urban development shifted geographically over time; thus, it revealed that the geographic centre of urban civilization wasn’t constant also from a drift of the transit non-permanent to Indus valley civilization (Pakistan) that was one of the early arrangement for the permanent housing units to the world we see now. However, there is a need to conduct more studies about the evolution of urban housing and the changes occurring in it with the passage of time, keeping in view the economy and socioeconomic conditions.

2. Materials and Methods

This is an exploratory study in which different articles, websites, books and research journals are referred to strengthen the current research work.

![Figure 1. Early hut dwellings of the ancient times and Indus Valley civilization early permanent housing units (Indus valley civilization, n.d.)](image)

2.1. History Evolution of Housing Forms

2.1.1. Ephemeral or transient dwellings. These were simplest and temporary dwellings constructed for only a short period of time. Their inhabitants were primitive food gatherers and hunters (Richard & Lee, 2001). They were constantly relocating themselves in search of food. This was due to the fact that they did not cultivate food but subsisted on game and plants. Primitive dwellings were simple shelters and small in size. The spherical shelters were covered by a beehive-type or domed structures.
African Kung Bushmen live in the arid Kalahari Desert. Their bands usually consist of about 25 to 30 persons. In their territory, food is scarce all around the year and they constantly migrate in search of a new food supply (Macleish, 1972). Bows, poisoned arrows and clubs are their chief hunting weapons. Followed by them was the Bambuti pygmy beehive hut. They live in Africa’s dark and dense forests (Dumont, 1988). The Bambuti live in villages that are characterized as groups, while each hut houses a family unit. With the beginning of every dry season, they leave the village and enter the forest to set up a series of camps (Turnbull, 2011). The hut of the Arunta is also an ephemeral dwelling type. They live in small bands of one to three families (Severin, 2019).

![Figure 2. (DOCG, 2019).](image)

Hunting weapons are spears and boomerangs. They draw water from the cavities of water bearing trees (Severin, 2016).
2.1.2. Ancient civilization. This section on ancient civilization covers the urban housing details of the early Mesopotamian, Egypt, Indus Valley Civilization and China.

Figure 3. Tell Asmara Housing units (Schoenauer, 2003).

The typical urban house in Ur consisted of several rooms around a central court and a staircase close to the entrance that led to the roof and the upper floor. A reception room, kitchen, and other ancillary household rooms faced the courtyard at ground level. In two-storey structures, bedrooms and private family rooms were located on the upper floor and faced the courtyard. The roof of single storey houses was often used as a sleeping platform. In humbler dwellings, the reception room had to serve also as a bedroom. Late Akkadian urban house forms dating from about 50 BC were found at Tell-Asmar. Although it has been asserted that most dwellings had a central hall rather than a court, it is, nevertheless, conceded that house "A" did have a court garden. Since no trace was left of their roof structures, the existence of roofed over central halls is only conjectural.

Egyptian houses were built of sun dried brick and had ceilings of palm trunks and stalks covered with earth; the floors were of rammed earth, probably whitewashed. The dais in the main room was also built of brick but with limestone edges and elbow rests at the sides. Windows were placed high just under the ceiling.
and had wooden or stone gratings (Schoenauer, 1968). Certainly, the large house of the overseer in Tell el-'Amarna had a central courtyard with a staircase leading to the upper stories and the roof space at its west side. The principal living spaces all opened in the court.

*Figure 4. Workmen’s housing (Marshall, 2003)*

Exploring the Indus Valley Civilization (IVC), the boundaries of the town site have not been determined and it cannot yet be ascertained whether the city was protected by fortifications. A certain regularity in its street layout suggests that the early inhabitants were inclined toward geometric order in the designing of cities, since all main streets and thoroughfares in the excavated areas were oriented to the points of the compass. Certain streets were lined with shops and judging from the number of bazaar streets, the city appears to have been prosperous (Indus Valley Civilization, n.d.).
As old as the Mesopotamian and Egyptian civilizations, IVC flourished in the basins of the Indus River (Marshall, 1968) and it comprised of two valleys, that is, the Indus valley and the Ganges valley, spreading from Baluchistan in the west to Uttar Pradesh in the east, Afghanistan to the north and Maharashtra to the south.

*Figure 5. Housing unit of Mohenjo-dero and Taxila after John Marshall (Schoenauer, 2003).*
Indus valley comprised Harappa, Mohenjo-Daro and Kot Diji shows off good yet new small states development with wide areas to move for the people, agricultural lands and rivers. Mohenjo-Daro includes a variety of ceramic and bronze artefacts that relate with those found in the Sumerian sites. Even today, many of the architectural features of IVC continued to resemble many of the Hindu shrines which stand as some of the architectural marvels. Indeed, the courtyard system was also adopted for the first time by the inhabitants of IVC as the climate was hot and dry, rooms at periphery all around they got shade inside these courtyards.

China from time immemorial, agriculture has been a sacred occupation in China and remains so today. By virtue of its fertile valleys, great alluvial plains, loess soil and a favourable climate with adequate rainfall, China possessed the ideal conditions for the emergence of an agricultural economy. Indeed, Chinese literature reveals that the knowledge of agricultural methods and water regulations was already well-advanced in early times, that is, between 2357 and 1122 BC.
2.2. Episodic or Irregular Temporary Dwellings

These dwellings are shelters occupied by food gatherers and hunters living in a small group. These nomadic bands were skilled hunters or fishermen living in a richer environment than ephemeral dwellers. Their shelter was erected within an hour or two. The period of use generally extended to several weeks instead of few days. These shelters included Inuit Igloos, Inuit Tupiq, Plain Indian Tepees, Tungus and Lapp Tents, Wai-Wai and Yanomamo Communal Dwellings, Erigbagtsa and Cubeo-Maloca. Different materials for construction were used for them as they all varied in locations and stay.
2.3. Periodic or Regular Temporary Dwellings

The portable tents of pastoral nomads represent periodic or regular temporary dwellings. These are Pastoral nomads are inhabited in these dwellings. Pastoral nomads are socially organized in small migrating bands. A tribe is a body of people of common derivation and custom and remains in possession and control of its own extensive territory. Nomads mostly spend their time outdoors. Hence, suitable clothing is of greater significance for survival as compared to the effectiveness of their shelter. The pastoral nomad’s dwelling is generally a portable tent consisting
of a tensile felt or skin membrane extended over a frame skeleton of wood. These dwellings are made of light weight material and remain easily transportable. Most periodic or temporary shelters are relatively small in area and their spaces are carefully designed. These shelters include the Mongolian yurt, Kirgizian Yurt, Air Tuareg Tent and Bedouin Black Tent.

![Mongolian Yurt](image1)
![Kirgazian Yurt](image2)
![Air Tuareg Tent](image3)
![Bedouin Black Tent](image4)

*Figure 10. Yurts and Tents*

### 2.4. Semi-Permanent Dwellings

The evolutionary fifth stage of dwelling is semi-permanent dwelling. It includes sheds and houses of sedentary cultures. This type of society, which has the largest social organization known as folk community, survives primarily through the cultivation of principal crops. The members of this community are commonly known as hoe peasants (small farmer). These dwellings are used for a longer period than just days or months. Hence, they are carefully constructed and remain more durable than nomadic or seasonal dwellings. Storage facilities are provided in these dwellings. They include Luyia and Luo Dwellings, Mesakin Quisar Cluster Dwelling, Awuna Cluster Dwelling, Gurunsi Compound Dwellings, Dogon Cluster Dwellings, Mayan Oval House and Mexican Jacal and the Pueblo.
A Literature Based Study of Early Housing Units…

(a) Luyia Dwelling
(b) Mesakin Dwellings
(c) Awuna Cluster Dwellings
(d) Gurunsi Dwellings
(e) Dogon Cluster Dwellings
(f) Mayan Dwellings
2.5. Permanent Dwellings

The sixth stage dwellings, also called permanent homesteads, are those of advanced agricultural societies. The basic unit of social organization in these societies is the family. The permanent dwelling is invariably constructed from durable building materials. Its walls are made either of wood or of masonry construction. The permanent character of the dwellings and locally available occupational specialization ensures better workmanship and detailing. Their doors, windows, roofs, floors and chimneys are more elaborate. Various rooms are designed for different functions, such as single purpose rooms serve as bedrooms, parlours and kitchens, and multipurpose rooms as kitchen/living rooms. Examples are found in the form of Chinese Cave Dwellings, Italian Trullo, Salovakian Village Farm House, the Hungarian Farmstead, the Low German Farmhouse, Bernese Farmhouse, the New England Homestead and the traditional Quebec Farmhouse.
Figure 12. Dwellings, Trullo and Farmhouse
### 3. Results and Discussions

#### Summary Table 1

**Ephemeral or Transient Dwellings**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Place</th>
<th>Size (ft)</th>
<th>Photograph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>African Bushmen Skirm</td>
<td>African Kung Bushmen live in the arid Kalahari Desert</td>
<td>Dia = 8 to 10 ft, Height = 6 to 8 ft</td>
<td>African Bushmen hut</td>
</tr>
<tr>
<td>2</td>
<td>Bambuti Hut</td>
<td>Africa’s dark and dense forests</td>
<td>Dia = 8 to 10 ft, Height = 4 to 5 ft</td>
<td>Bambuti Hut</td>
</tr>
<tr>
<td>3</td>
<td>Arunta Hut</td>
<td>Deserts of central Australia</td>
<td>Dia = 9 to 12 ft, Height = 5 to 6 ft</td>
<td>Arunta Hut</td>
</tr>
</tbody>
</table>
### Summary Table 2

*Episodic or Temporary Dwelling Units*

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Description</th>
<th>Place</th>
<th>Size (ft)</th>
<th>Photograph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inuit Igloo</td>
<td>Canada's Central Arctic and Greenland's Thule area</td>
<td>Dia Maximum = 15 ft Height = 10 ft at the center</td>
<td><img src="image" alt="Inuit Igloo Simon (2015)" /></td>
</tr>
<tr>
<td>2</td>
<td>Plains Indian Tepees</td>
<td>Native American Tribes in Canada</td>
<td>Dia = 12 to 15 ft Height = 10 to 12 ft</td>
<td><img src="image" alt="Plains Indian Tepees" /></td>
</tr>
<tr>
<td>3</td>
<td>The Tungus Tent</td>
<td>Eastern Siberia</td>
<td>Dia = 12 ft Height = 10 to 12 ft</td>
<td><img src="image" alt="The Tungus Tent" /></td>
</tr>
<tr>
<td>No</td>
<td>Region</td>
<td>Country</td>
<td>Characteristics</td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>-------------------------</td>
<td>------------------------</td>
<td>------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The Lapps</td>
<td>Northern Europe</td>
<td>Tripod base (Kota) = 12 ft Height = 10 to 12 ft</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The Lapps</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Wai-Wai Communal Dwellings</td>
<td>British Guiana</td>
<td>Dia = Reaches 40 ft Height = 10 at sides and 20 ft at the centre</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wai-Wai Communal Dwelling</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Yonomamo Communal Dwellings</td>
<td>Orinoco river basin in southern Venezuela</td>
<td>Dia = Reaches 40 to 50 ft Height = 15 to 18 ft at the centre</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yonomamo Communal Dwelling</td>
<td></td>
</tr>
</tbody>
</table>
### Summary Table 3

*Periodic or Regular Temporary Dwellings*

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Description</th>
<th>Place</th>
<th>Size (ft)</th>
<th>Photograph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mongolian Yurt</td>
<td>Steppe (unforested plain) lands of Asia</td>
<td>Dia = 10 ft to 20 ft Wall Height = 4 ft</td>
<td>Mongolian Yurt</td>
</tr>
<tr>
<td>2</td>
<td>Kirgazian Yurt</td>
<td>Steppe (unforested plain) lands of Asia</td>
<td>Dia = 10 ft to 20 ft Wall Height = 4 ft</td>
<td>Kirgazian Yurt</td>
</tr>
</tbody>
</table>
These pastoral nomads live in the arid plains of the Sakelian Zone on the fringes of the Sahara Desert.

Length = 15 ft  
Width = 10 ft  
Height = 6 to 7 ft

Bedouin Black Tent

Western Asia and North Africa in the deserts of Arabia and Sahara.

Length = 20 to 30 ft  
Depth = 10 ft  
Height = 5 to 7 ft  
Length of Sheikh’s tent reaches 70 ft

Summary Table 4

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Description</th>
<th>Place</th>
<th>Date/Era</th>
<th>Size (ft)</th>
<th>Photograph</th>
</tr>
</thead>
</table>
| 1      | Luyia Dwellings        | Kenya’s fertile rolling hills | Settled in Kenya in 1450 AD and migration completed in 1850 AD | Dia = 25 to 28 ft  
Height = 15 to 18 ft at the center and 8 to 10 ft at the lower end | Luyia Dwellings        |
|   | Luo Dwellings | The low lying areas around Lake Victoria | 1500 AD | Dia = 25 to 28 ft  
Height = 15 to 18 ft at the center and 8 to 10 ft at the lower end |
|---|--------------|------------------------------------------|----------|-------------------------------------------------|
| 2 | Mesakin Dwelling | Sudan | From 17\textsuperscript{th} century to date | Dia = 11 to 13 ft  
Height = 7 to 10 ft  
Courtyard dia up to 30 ft |
| 3 | Awuna Cluster Dwelling | Ghana, Upper Volta, Africa | Prehistoric 6000 BC to date | Dia = 10 to 13 ft  
Height = 7 to 10 ft  
Courtyard dia = 25 to 30 ft |
<table>
<thead>
<tr>
<th></th>
<th>Gurunsi Compound Dwellings</th>
<th>Ghana, Upper Volta</th>
<th>Prehistoric 6000 BC to date</th>
<th>House size reaches 25x30 ft, overall plot in rectangular form</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Dogon Cluster Dwelling</td>
<td>Upper Volta and Bandiagara Plateau</td>
<td>Prehistoric 6000 BC to date</td>
<td>House consists of different rooms for beds, stores and/or kitchen</td>
</tr>
<tr>
<td>6</td>
<td>Mayan Oval House</td>
<td>Yucatan peninsula in Mexico</td>
<td>850-925 AD</td>
<td>Length = 25 ft, Width = 15 ft, Height = 13 to 15 ft at the center</td>
</tr>
</tbody>
</table>
|   | Mexican Jacal | United States and Mexico | 18\textsuperscript{th} century onward | Length = 25 ft  
Width = 15 ft  
Height = 13 to 15 ft at the center |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Pueblo</td>
<td>American pueblo inhabited by the Hopi, Zuni, Acoma, pueblo Indians tribes living in the semi-desert plateau of Arizona and New Mexico</td>
<td>18\textsuperscript{th} century onward</td>
<td>One room generally 8\times8 ft (varies from 6 to 8 ft)</td>
</tr>
</tbody>
</table>

Jacal House

Pueblo
### Summary Table 5

**Semi-Permanent and Permanent Dwellings**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Place</th>
<th>Date/Era</th>
<th>Size (ft)</th>
<th>Photograph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chines Cave Dwellings</td>
<td>China</td>
<td>2nd millennium BC, China's Bronze Age, as per Chinese scholars 206 BC to 220 AD (Golany, 1992)</td>
<td>Cliff side cave dwelling Width = 10 ft Depth = 20 ft Height = 10 ft Subterranean cave 30 ft deep</td>
<td><img src="image1.jpg" alt="Chinese Cave Dwellings" /></td>
</tr>
<tr>
<td>2</td>
<td>Italian Trullo</td>
<td>Italy and Murgia in the region of Apulia in Southern Italy 17th century and onward</td>
<td>Room = 8x8 ft Height = 16 ft at center and 8 ft at the lower end. Plot generally 30x30 ft (Ambrosi, Panella &amp; Radicchio, 1997)</td>
<td>Italian Trullo</td>
<td><img src="image2.jpg" alt="Italian Trullo" /></td>
</tr>
<tr>
<td></td>
<td>Slovakian Village Farm House</td>
<td>Kysuce and Orava in Czechoslovakia</td>
<td>From 17th century</td>
<td>Bed Room = 16x16 ft</td>
<td>Height = 25 ft at the center and 8 ft at the lower end</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------</td>
<td>----------------------------------</td>
<td>-----------------</td>
<td>-------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>The Hungarian Farmstead</td>
<td>Hungary</td>
<td>From 17th century</td>
<td>Length = 60 ft</td>
<td>Width = 20 ft</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The Low German Farmhouse</td>
<td>Germany</td>
<td>The Low German house existed from the 13th to 15th centuries (Low German house, 2015)</td>
<td>Length = 80 ft</td>
<td>Width = 40 ft</td>
</tr>
</tbody>
</table>

Slovakian Village Farm House

The Hungarian Farmstead

The Low German Farmhouse
<table>
<thead>
<tr>
<th>No.</th>
<th>House Type</th>
<th>Location</th>
<th>From Century</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Bernese Farmhouse</td>
<td>Low lying midland of Switzerland</td>
<td>16th century</td>
<td>Bedroom size 16x16 ft, wall height 12 ft but rises to 30 ft at the center</td>
</tr>
<tr>
<td>7</td>
<td>New England Homestead</td>
<td>England, Canada and USA</td>
<td>19th century</td>
<td>Plot sizes 35x35 ft, Bedroom size 12x12 ft, height 12 to 15 ft</td>
</tr>
<tr>
<td>8</td>
<td>The Traditional Quebec Farmhouse</td>
<td>France</td>
<td>19th century</td>
<td>Covered area 35x28 ft</td>
</tr>
</tbody>
</table>
4. Conclusion

This paper documented the early housing forms and settlements and their evolution along with their historical chronology. Moreover, it also projected the elements and forms of early housing units to understand their impact on today’s housing conditions. The findings show that the early housing units around the world had almost similar nomadic and permanent forms and elements and only their characteristics were diversified across regions due to climatic variations and resulting life patterns of different areas. This research provides a background to support further research and analysis on the historical evolution of housing units and their impact on the newly developed dwelling units today. This paper presented a baseline data of the evolution of early urban units in history that could be a good resource in the present day research on housing, especially socially responsive architectural solutions for the existing communities.

References


Schoenauer, N. (2003). *UR urban planning*. Tell Asmara Housing units


