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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

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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.

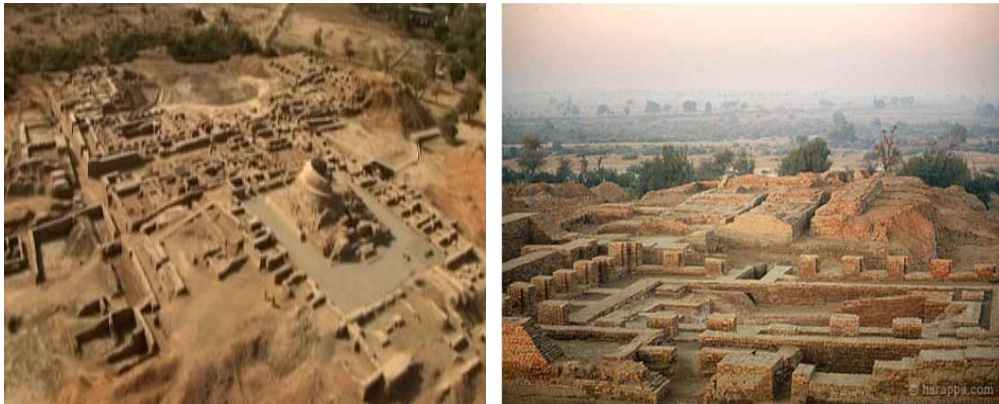


Figure 1. Early hut dwellings of the ancient times and Indus Valley civilization early permanent housing units (Indus valley civilization, [n.d.](#))

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](#)).



(a) African Bushmen



(b) Bambuti Hut



(c) Arunta Hut

Figure 2. (DOCG, [2019](#)).

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.

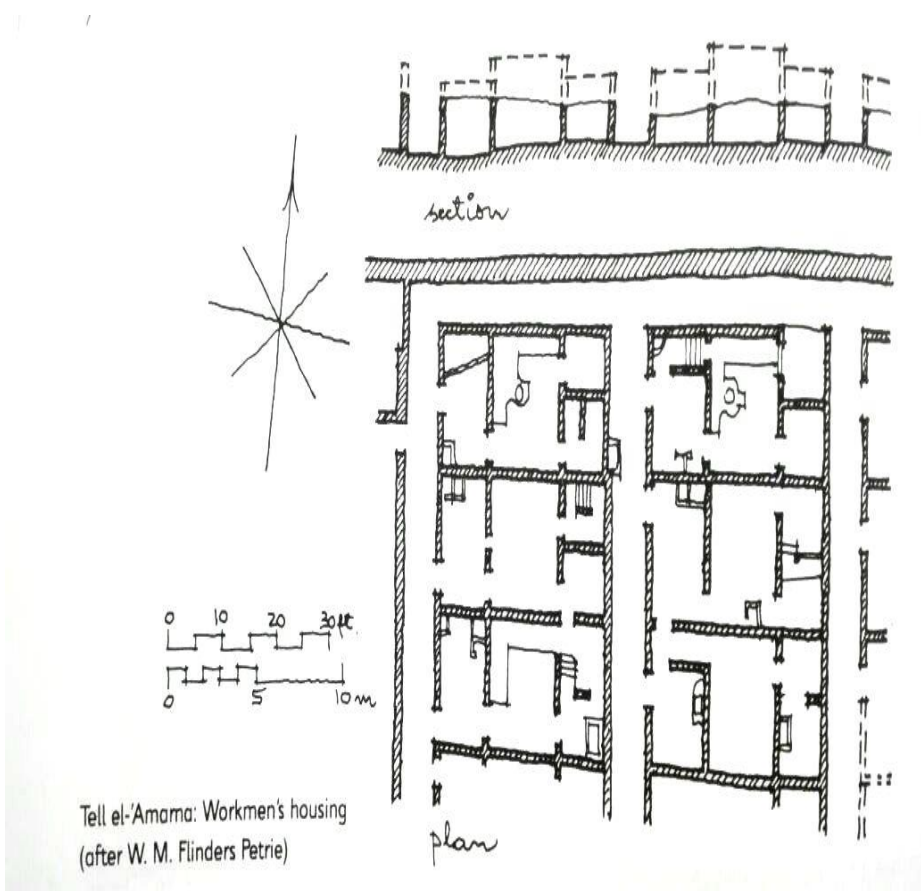


Figure 4. Workmen's housing (Marshall, 2003)

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.).

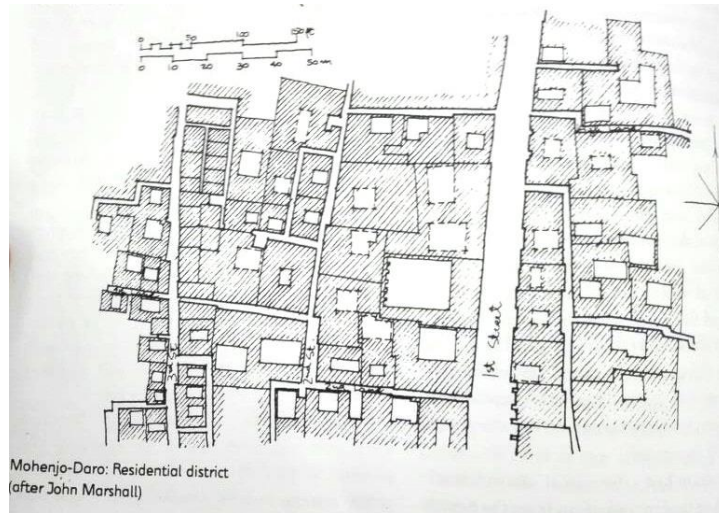


Figure 5. Housing unit of Mohenjo-dero and Taxila after John Marshall (Schoenauer, 2003).

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 6. City Planning and housing of early Indus valley civilization, (n.d.)

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.

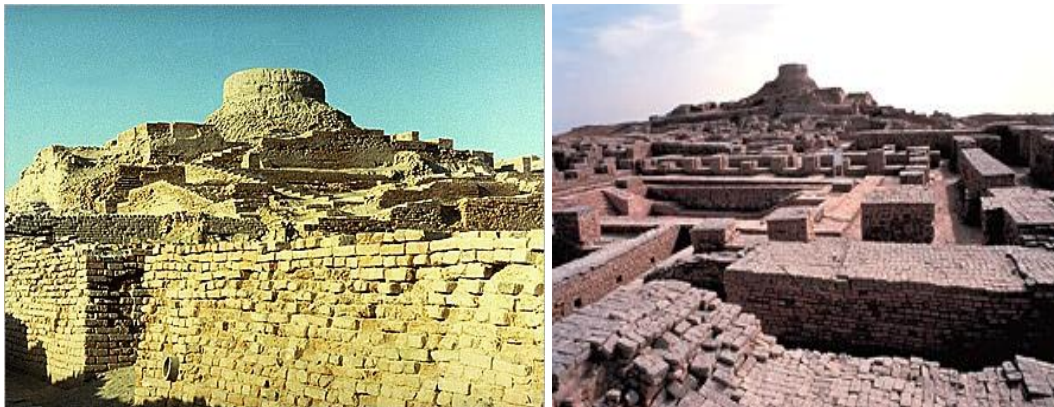


Figure 7. Mohenjodaro and Harappa: excavated ruins of Mohenjo-daro, with the great bath, (n.d.)

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.

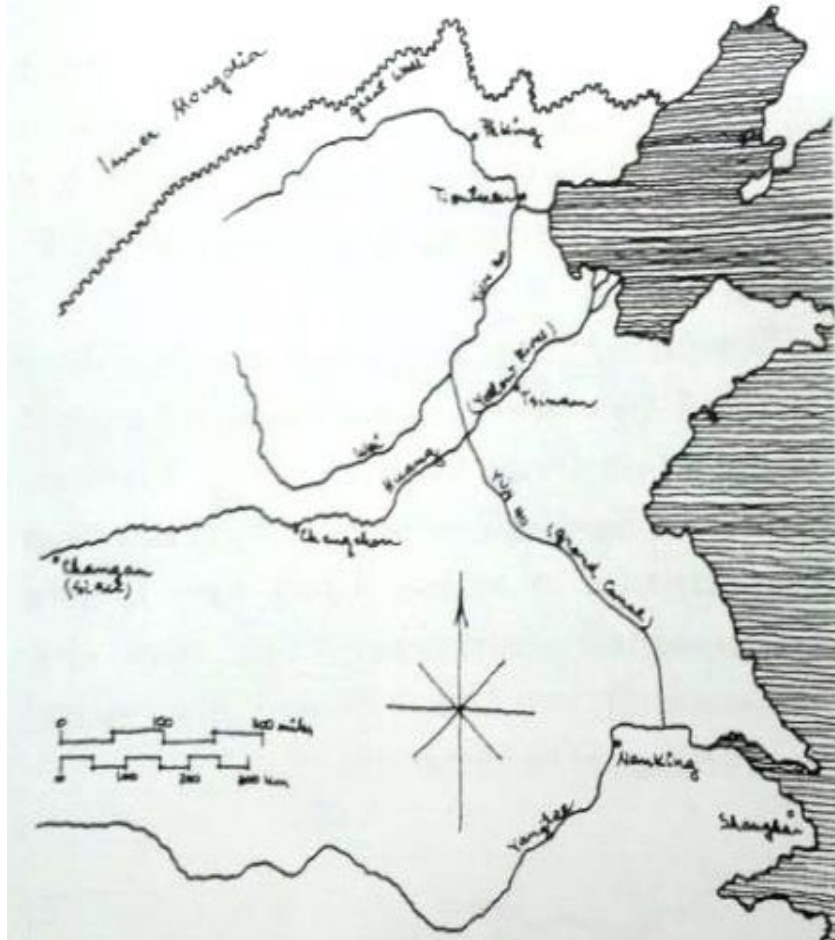


Figure 8. Early Chinese civilization, (Schoenauer, [2003](#)).

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.



(a) Inuit Igloo



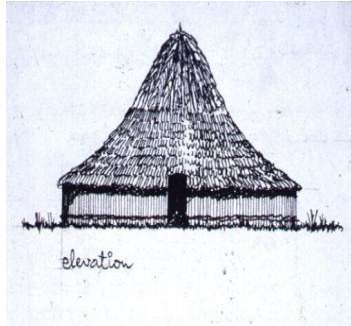
(b) Plains Indian Tepees



(c) The Tungus Tent



(d) The Lapps



(e) Wai-Wai



(f) Yonomamo



(g) Erigmaagtsa Maloca

Figure 9. (Schoenauer, [2003](#))

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.



(a) Mongolian Yurt



(b) Kirgizian Yurt



(c) Air Tuareg Tent

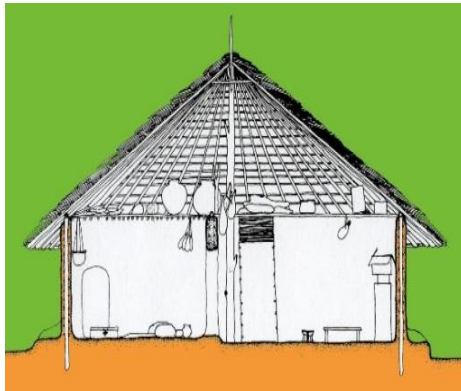


(d) Bedouin Black Tent

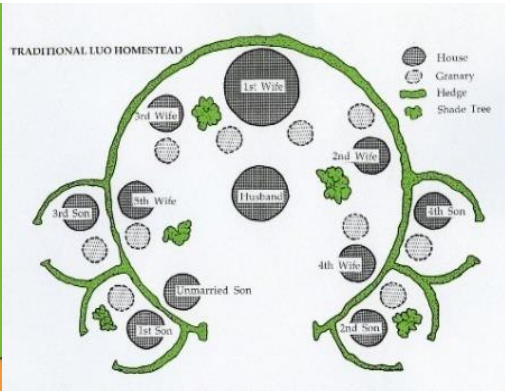
Figure 10. Yurts and Tents

2.4. Semi-Permanent Dwellings

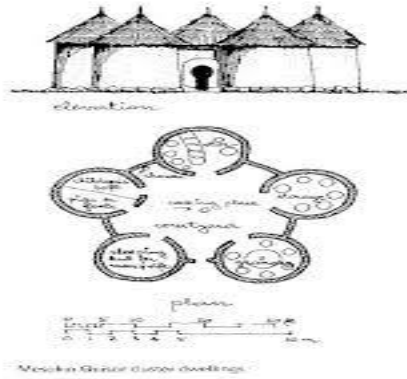
The evolutionary fifth stage of dwelling is semi-permanent dwelling. It includes sheds and houses of sedentary cultures. This type of society, which has the largest social organization known as folk community, survives primarily through the cultivation of principal crops. The members of this community 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 Maxican Jacal and the Pueblo.



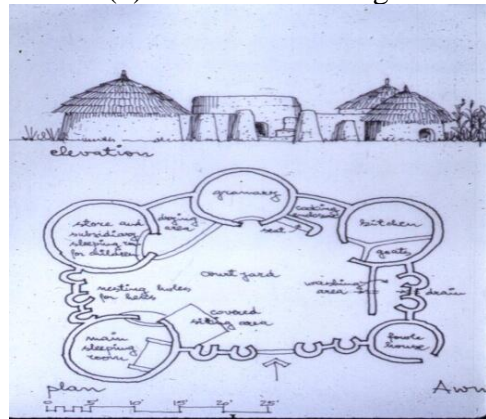
(a) Luyia Dwelling



(b) Mesakin Dwellings



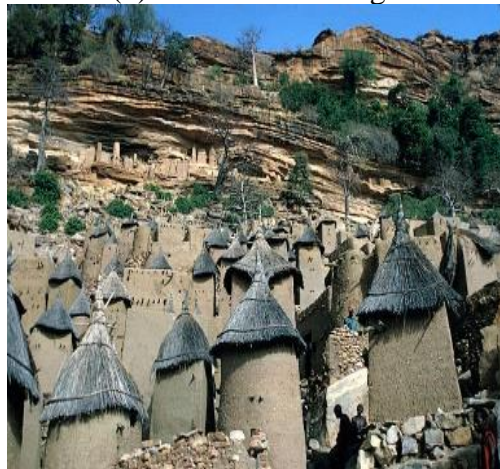
(c) Awuna Cluster Dwellings



(d) Gurunsi Dwellings



(e) Dogon Cluster Dwellings



(f) Mayan Dwellings



(g) Jacak House

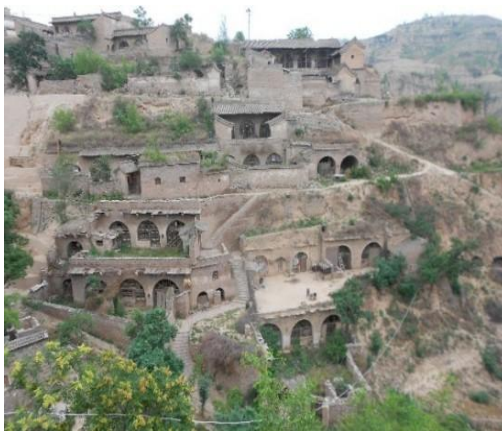


(h) Pueblo houses

Figure 11. Dwellings and House

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, Slovakian Village Farm House, the Hungarian Farmstead, the Low German Farmhouse, Bernese Farmhouse, the New England Homestead and the traditional Quebec Farmhouse.



(a) Chinese Cave Dwellings



(b) Italian Trullo



(c) Slovakian Village Farmhouse



(d) The Hungarian Farmstead



(e) The Low German Farmhouse



(f) Bernese Farmhouse



(g) New England Homestead






(h) The Traditional Quebec Farmhouse

Figure 12. Dwellings, Trullo and Farmhouse

3. Results and Discussions


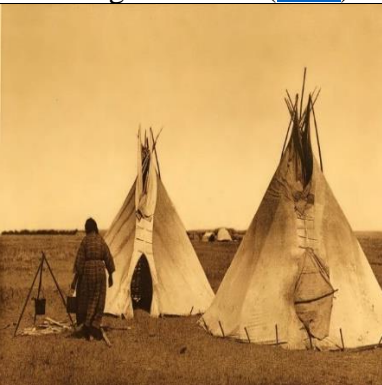

Summary Table 1


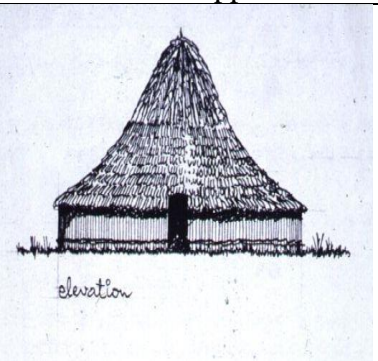

Ephemeral or Transient Dwellings


Sr. No.	Description	Place	Size (ft)	Photograph
1	African Bushmen Skirm	African Kung Bushmen live in the arid Kalahari Desert	Dia = 8 to 10 ft Height = 6 to 8 ft	 <p>African Bushmen hut</p>
2	Bambutu Hut	Africa's dark and dense forests	Dia = 8 to 10 ft Height = 4 to 5 ft	 <p>Bambutu Hut</p>
3	Arunta Hut	Deserts of central Australia	Dia = 9 to 12 ft Height = 5 to 6 ft	 <p>Arunta Hut</p>

Summary Table 2



Episodic or Temporary Dwelling Units



Sr. No	Description	Place	Size (ft)	Photograph
1	Inuit Igloo	Canada's Central Arctic and Greenland's Thule area	Dia Maximum = 15 ft Height = 10 ft at the center	 <p data-bbox="851 698 1172 729">Inuit Igloo Simon (2015)</p>
2	Plains Indian Tepees	Native American Tribes in Canada	Dia = 12 to 15 ft Height = 10 to 12 ft	 <p data-bbox="876 1117 1143 1152">Plains Indian Tepees</p>
3	The Tungus Tent	Eastern Siberia	Dia = 12 ft Height = 10 to 12 ft	 <p data-bbox="901 1508 1122 1543">The Tungus Tent</p>

4	The Lapps	Northern Europe	Tripod base (Kota) = 12 ft Height = 10 to 12 ft	 <p>The Lapps</p>
5	Wai-Wai Communal Dwellings	British Guiana	Dia = Reaches 40 ft Height = 10 at sides and 20 ft at the centre	 <p>Wai-Wai Communal Dwelling</p>
6	Yanomamo Communal Dwellings	Orinoco river basin in southern Venezuela	Dia = Reaches 40 to 50 ft Height = 15 to 18 ft at the centre	 <p>Yanomamo Communal Dwelling</p>

7	Erigbaagtsa and Cubeo Maloca	north west part of Amazon basin, Brazil, French Guiana	Length = 75 ft Width = 55 ft Height = 21 ft	 <p data-bbox="882 551 1139 576">Erigbaagtsa Maloca</p>
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Summary Table 3
Periodic or Regular Temporary Dwellings

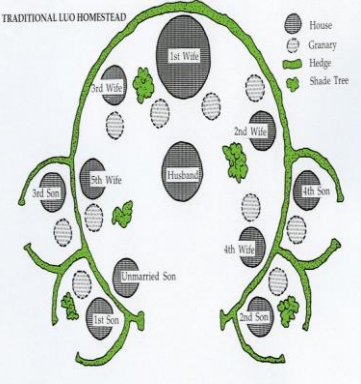

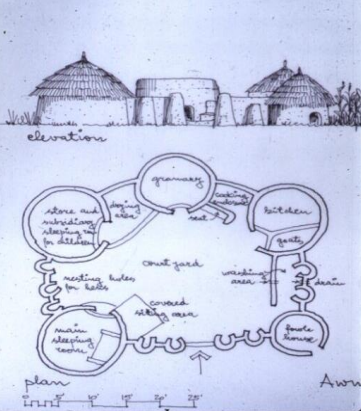
Sr. No	Description	Place	Size (ft)	Photograph
1	Mongolian Yurt	Steppe (unforested plain) lands of Asia	Dia = 10 to 20 ft Wall Height = 4 ft	 <p data-bbox="905 1146 1110 1172">Mongolian Yurt</p>
2	Kirgazian Yurt	Steppe (unforested plain) lands of Asia	Dia = 10 to 20 ft Wall Height = 4 ft	 <p data-bbox="911 1565 1105 1590">Kirgazian Yurt</p>


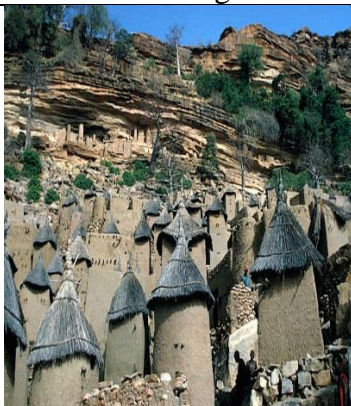

3	Air Tuareg Tent	These pastoral nomads live in the arid plains of the Sakelian Zone on the fringes of the Sahara Desert	Length = 15 ft Width = 10 ft Height = 6 to 7 ft	 <p style="text-align: center;">Air Tuareg Tent</p>
4	Bedouin Black Tent	Western Asia and North Africa in the deserts of Arabia and Sahara	Length = 20 to 30 ft Depth = 10 ft Height = 5 to 7 ft Length of Sheikh's tent reaches 70 ft	 <p style="text-align: center;">Bedouin Black - Tent</p>



Summary Table 4

Seasonal Dwellings

Sr. No	Description	Place	Date/Era	Size (ft)	Photograph
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	 <p style="text-align: center;">Luyia Dwellings</p>

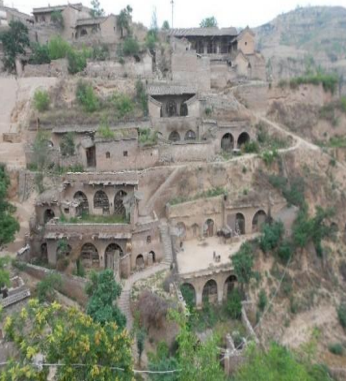

2	Luo Dwellings	The low lying areas around Lake Victoria	1500 AD	Dia = 25 to 28 ft Height = 15 to 18 ft at the center and 8 to 10 ft at the lower end	 <p>TRADITIONAL LUO HOMESTEAD</p> <ul style="list-style-type: none"> House Granary Hedge Shade Tree <p>Luo Dwellings</p>
3	Mesakin Dwelling	Sudan	From 17 th century to date	Dia = 11 to 13 ft Height = 7 to 10 ft Courtyard dia up to 30 ft	 <p>Mesakin Huts</p>
4	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	 <p>Awuna Cluster Dwelling</p>


5	Gurunsi Compound Dwellings	Ghana, Upper Volta	Prehistoric 6000 BC to date	House size reaches 25x30 ft, overall plot in rectangular form	 <p data-bbox="901 596 1158 662">Gurunsi Compound Dwellings</p>
6	Dogon Cluster Dwelling	Upper Volta and Bandiagara Plateau	Prehistoric 6000 BC to date	House consists of different rooms for beds, stores and/or kitchen	 <p data-bbox="868 1070 1186 1106">Dogon Cluster Dwelling</p>
7	Mayan Oval House	Yucatan peninsula in Mexico	850-925 AD	Length = 25 ft Width = 15 ft Height = 13 to 15 ft at the center	 <p data-bbox="982 1528 1072 1559">Mayan</p>




8	Mexican Jacal	United States and Mexico	18 th century onward	Length = 25 ft Width = 15 ft Height = 13 to 15 ft at the center	 <p data-bbox="949 700 1106 728">Jacal House</p>
9	Pueblo	American pueblo inhabited by the Hopi, Zuni, Acoma, pueblo Indians tribes living in the semi-desert plateau of Arizona and New Mexico	18 th century onward	One room generally 8x8 ft (varies from 6 to 8 ft)	 <p data-bbox="978 1355 1078 1383">Pueblo</p>

Summary Table 5

Semi-Permanent and Permanent Dwellings

Sr. No.	Description	Place	Date/Era	Size (ft)	Photograph
1	Chines Cave Dwellings	China	2 nd millennium BC, China's Bronze Age, as per Chinese scholars 206 BC to 220 AD (Golany, 1992)	Cliff side cave dwelling Width = 10 ft Depth = 20 ft Height = 10 ft Subterranean cave 30 ft deep	 <p>Chinese Cave Dwellings</p>
2	Italian Trullo	Italy and Murgia the region of Apulia in Southern Italy	17 th century onward	Room = 8x8 ft Height = 16 ft at center and 8 ft at the lower end. Plot generally 30x30 ft (Ambrosi. Panella & Radicchio, 1997)	 <p>Italian Trullo</p>

3	Slovakian Village Farm House	Kysuce and Orava in Czechoslovakia	From 17 th century	Bed Room = 16x16 ft Height = 25 ft at the center and 8 ft at the lower end Plot size 50x50 ft	 <p>Slovakian Village Farm House</p>
4	The Hungarian Farmstead	Hungary	From 17 th century	Length = 60 ft Width = 20 ft Height = 20 ft at the center and 10 ft at the lower end	 <p>The Hungarian Farmstead</p>
5	The Low German Farmhouse	Germany	The Low German house existed from the 13 th to 15 th centuries (Low German house, 2015)	Length = 80 ft Width = 40 ft Height = 25 ft at the center and 15 ft at the lower end	 <p>The Low German Farmhouse</p>

6	Bernese Farmhouse	Low lying midland of Switzerland	From 16 th century	Bedroom size 16x16 ft, wall height 12 ft but rises to 30 ft at the center	 <p data-bbox="901 646 1158 675">Bernese Farmhouse</p>
7	New England Homestead	England, Canada and USA	From 19 th century	Plot sizes 35x35 ft, Bedroom size 12x12 ft, height 12 to 15 ft	 <p data-bbox="863 1093 1192 1122">New England Homestead</p>
8	The Traditional Quebec Farmhouse	France	From 19 th century	Covered area 35x28 ft	 <p data-bbox="872 1537 1186 1603">The Traditional Quebec Farmhouse</p>

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.

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