

Cities of the Indus

Development of Cities

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The cities developed out of earlier villages that had previously existed in the same region. Beginning with a relatively small population, they grew in size and density to become the largest settlement of the region, surrounded by numerous towns and villages. New villages were established at the crossroads of trade routes, which eventually became large towns and cities of the Indus Valley civilization. All these settlements were linked by trade and economic activities as well as religious beliefs and social relations. Most villages covered 1 hectares to 10 hectares of area. These villages supported and maintained the larger towns and cities.

Vast agricultural lands, rivers and forests that were inhabited by pastoral communities, fisher folk and hunters and gatherers surrounded each city.

Classification of towns

Small villages or hamlets	0 -10 hectares
Large towns	10-50 hectares
Cities	50 hectares

Important Cities

City	Size	Population
Mohenjodaro	200 hectares	35-41,000
Harappa	150 hectares	23,500
Ganweriwala	80 hectares	
Rakhigarhi	80 hectares	
Dholavira	100 hectares	
Rehman Dehri	22 hectares	12,000

Development of Settlement Planning

Evidence of the earliest village is from **Mehergarh** (6500-6000 BC). The settlement consisted of an irregular scatter of mud brick houses separated by refuse dumps and passageways. Houses, both square and rectangular, were subdivided into four or more units. Some units were probably used as storage areas. Material for house construction comprised handmade mud bricks, wood, branches and grass.

The idea of settlement planning was well established at Harappa at a very early phase, **Kot Diji** (prior to 2600 BC).

The basic overall layout of the settlements is distinguished by the orientation of the streets to cardinal points.

There is no standard division of the city into a high western citadel and a lower town. Large public buildings, market areas, large and small private houses as well as craft workshops have been found in conjunction with each other.

Each city is composed of a series of walled sectors or mounds, oriented in different directions. The actual layout of the streets and smaller lanes is defined as an irregular net pattern. The walls of the houses were built at different angles and often the city walls were built curving instead of along cardinal directions. Defence walls (4-5 m) built of limestone rubble foundation and mud bricks surrounded the settlement.

At **Dholavira**, (2600-1500 BC) it has been possible to trace the growth of the settlement to an important urban centre and its eventual decline. The site is on an island in the Rann of Kutch. Its strategic location near the coast permitted it to control the movement of goods between the resource areas of Gujarat and the core areas of the Indus plain. **Dholavira** was an important site for the manufacture of agate beads, shell working and ceramic production.

The first phase of occupation is dated to 2500 BC. Houses were built of mud bricks on sandstone foundations. The city consists of an acropolis and a lower town. The large buildings located on the acropolis area may represent administrative or ritual structures.

Open areas in the city were probably used as markets or public gathering places.

Habitation and craft activity areas are located in the lower sectors of the city. They are organised in blocks divided by north-south and east-west streets. Cisterns and reservoirs located in the citadel and lower town provided for the collection of seasonal water.

The largest example of writing in the Indus cities has been recovered from a side room of a gateway at Dholavira. The inscription is made from white gypsum paste inlay set into a wooden plank. It consists of 10 symbols, each measuring 37 cm x 25-27 cm and probably mentions a name or a title. The sign was probably mounted on the gateway and would have been visible throughout the city.

In the Late Indus phase, deterioration in town planning is noticed. There is a distinct absence of urban structures and the city appears to disintegrate into small rural settlements.

Harappa

Harappa had a population of around 23,500 and an area of over 150 hectares. The city of Harappa consists of a number of mounds, each provided with mud brick walls, and brick gateways and bastions. Earliest city may have been formed during the Kot Diji phase, i.e., 2800-2500 BC and covered an area of 25 hectares. It became a centre for trade networks extending from Baluchistan and Afghanistan to the west to the seacoast in the south.

Town structure consists of:

- Citadel mound and lower town surrounded by a massive brick wall.
- Citadel had square towers and bastions.
- Large open areas inside the gateway may have been used as a market or checkpoint for taxing goods coming into the city
- Outside the city walls a cluster of houses may represent temporary rest stops for travellers and caravans
- No division of the society is reflected in the layout of the city. Since large public buildings, market areas, large and small houses as well as craft workshops have been found in the same neighbourhood.
- Barrack-like group of single-roomed tenements were for the poorer classes
- Basic house plans ranging from single room tenements to houses with courtyards and up to 12 rooms to great houses with several dozen rooms and several courtyards.
- Houses had rooms on three sides opening into a central courtyard
- Nearly all large houses had private wells.
- Hearths common in rooms.
- Bathrooms in every house with chutes leading to drainage channels.
- First floor bathrooms also built.
- Brick stairways provided access to the upper floors.
- Houses built with a perimeter wall and adjacent houses were separated by a narrow space of land.
- Granary with areas for threshing grains.
- Burnt bricks mainly used for drains, wells and bathrooms.
- Sun dried bricks used mainly for fillings.
- Timber used for flat roofs and as frames or lacing for brickwork

Drainage system

Wells and reservoirs were provided in cities to ensure drinking and bathing water. The wells were lined with specially-made wedge-shaped bricks to form a structurally sound cylinder. Ropes were used to lift the water out, probably with leather or

wooden buckets. Some neighbourhoods had communal wells.

Bathing platforms with drains were often situated in rooms adjacent to the wells. The floors of the baths were made of tightly-fitted bricks, often set on edge to make a watertight floor. A small drain cut through the house wall out into the street directed the dirty water into a larger sewage drain. Drains and water chutes in the upper storeys were often built inside the wall with an exit opening just above the street drains. Tapered terracotta drainpipes were used to direct water out to the street.

Many houses had distinct toilets, separate from the bath areas. Commodes were large jars or sump pots sunk into the floors and many of them contained a small jar. Sometimes the sump pots were connected to drains to let the sewage flow out and most had a tiny hole on the bottom to allow the water to seep into the ground.

Drains were made of burnt bricks and connected the bathing platforms and latrines of private houses to medium-sized open drains in the side streets. These open drains flowed into the larger sewers in the main streets which were covered with baked bricks or dressed stone blocks.

Separate garbage bins were provided along the major streets.

Architecture

The most common building materials were mud bricks and baked bricks, wood and reeds.

The average size of the bricks was 7 x 12 x 34 cm (for houses) and 10 x 20 x 40 cm for the city walls. The larger bricks have a standard ratio of 1:2:4.

Mud brick and baked brick and wood or stone were used for the foundation and walls of the houses. The doors and the windows were made from wood and mat. House floors were generally hard-packed earth that was often replastered or covered with clean sand. Bathing areas and drains were made with baked brick and stone. Some rooms were paved with bricks or fired terracotta cakes. Roofs were probably made of wooden beams covered with reeds and packed clay.

Some of the largest buildings appear to have been made entirely of wood.

Houses

Most private houses had rooms arranged around a central courtyard. Doors and windows opened out into side lanes. Stairs led up to the roof or the second storey. Windows had shutters and latticework.

Large public structures

Large buildings in the acropolis area may represent administrative or ritual structures. These buildings had access routes or provided thoroughfare from one area to another. Markets and public meetings were probably held in large open courtyards. Groups of houses and public buildings were built close together with shared walls and formed larger blocks that were bordered by wide streets.

At Harappa, the transition of the settlement from an agricultural village to early city probably took place in around 2800 BC (Kot Diji) phase. During this phase the

settlement grew to about 25 hectares in size and became a centre for trade networks extending from Baluchistan (Afghanistan) to the west to the distant seacoast in the south. In the next few hundred years, the town had grown six times larger, covering an area of 150 hectares.