

## How Indus towns developed

### Chalcolithic

#### Typesite

#### Mehergarh

#### 6500-6000 BC (Period 1A)

Evidence of the first Indus village appears in this period. The evidence comprises of an irregular scattering of mud brick houses separated by refuse dumps and passageways. These are square and rectangular houses subdivided into four or more units. Some of the units were probably storage areas.

The mud bricks used in these constructions were handmade. Other materials used were wood, branches and grass.

There appears to be an absence of an overall site plan or settlement structure.

### Early Indus

#### Typesite

- Mundigak
- Amri
- Kot Diji
- Rehman Dheri
- Lewan Dar Dariz
- Tarakai Qila
- Kalibangan
- Banawali

### Town Structure

#### 3540 BC

#### Amri

- Mud brick and stone houses of many rooms

- Rectangular houses (16x3 metres) with paved floors and doors
- Bricks of irregular sizes
- Foundations of stone
- Presence of multiple cellular compartments (1m<sup>2</sup>) probably grain stores
- Storage jars on house floors.

### **c. 3180 BC**

#### **Kot Diji**

- Defence walls (4-5 metres high)-lower course is limestone rubble while upper course is of mud brick.

### **2600-2480 BC**

#### **Rehman Dheri**

- Earliest town plan.
- Size 22 ha.
- Pop 12000
- Grid pattern of town with roads running NW-SE

### **2920-2550 BC**

#### **Kalibangan**

- Early version of town planning
- Planned like a rectangle having straight arms with a little tortuosity in the northwestern corner.
- Use of dried brick and stone for domestic structures and defence walls
- Standardisation of bricks 3:2:1
- Hearths;
- Ovens located on surface as well as below ground level
- Constructions of latrines, drains and washing areas
- Introduction of irrigation
- Use of ponds and oxbow lakes for agriculture, watering herds and fishing.
- Ploughed field surface with furrow in 2 directions

#### **Banawali**

- Intermediate phase of Indus civilisation
- Initially lived in mud brick houses in an open settlement.
- Later enclosed by a wall designed as an apsidal or oval fortification

following the existing contours of the dune on which the settlement was perched.

- Evidence of wholesale demolition of the earlier houses followed by new construction which included a new layout; enlargement of the settlement into a bipartite one with the preceding habitation converted into a citadel with the general town planned around it.

### **Kunal**

- Earliest evidence of rectilinear houses made of mud bricks in both the pre-Harappan and Harappan standards.

### **Mature Indus**

#### **Harappa**

Pop 23,500

Area >150 hectares

- Earliest city may have been formed during the Kot Diji phase, i.e., 2800-2500 BC
- Earliest city 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.
- Towns built over raised mud brick platforms

#### **Town structure consists**

- 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

## **Mohenjodaro**

Pop. 35,000-41,000

Area >200 hectares

- Range of shops and craft workshops-potters, dyers, metal workers, shell ornament makers and bead makers shops
- Great Bath - 12 x 7x 3 metres. This is the earliest public water tank in the ancient world. Two wide staircases in the north and the south lead down into the tank. Small sockets at the edges of the stairs could have held wooden planks or treads. At the foot of the steps is a ledge extending the entire width of the pool
- The floor of the tank is watertight. A thick layer of bitumen was laid along the sides of the tank and beneath the floor. The floor slopes to the south-western corner where a small outlet leads to a brick drain, which takes the water to the edge of the mound. Rooms are located along the eastern edge of the building. The tank was probably used for special religious functions where water was used to purify and renew the well being of the bathers.
- Granary (50x40 metres) is built on a massive mud brick foundation. Two rows of six rooms are arranged along a central passageway (7 metres wide and paved with baked bricks). Each room (15.2 x 6.1 metres) has 3 sleeper walls with airspace between them. A wooden superstructure would have built on the brick foundation with stairs leading to the central passage area. Small triangular openings may have been air ducts to allow the flow of fresh air beneath hollow floors.
- Great Hall (50 x 27 metres) is built on the top of a tapered brick platform and has a solid brick foundation. The foundation was divided into 27 square and rectangular blocks by narrow passageways running east west and north south. Some of these blocks have square sockets for holding wooden beams or pillars. A brick lined well was located at the foot of the stairs.
- Stairs leading into the bath have timber treads set in bitumen.

- Floor of sawn bricks set on edge in gypsum mortar with a layer of bitumen sealer sandwiched between the inner and outer brick skins.
- Water supplied by a large well. Set of rooms surround the bath.

### **Lothal**

- Trading station and dock.
- Centre of carnelian bead manufacture
- Dock is a rectangle basin with a spillway and locking device to control the inflow of tidal wave and permit automatic desilting of the channels.
- Raised platforms with ventilating channels were probably granaries or warehouses.
- Specialist workshops- copper, gold and beads.

### **Dholavira**

3<sup>rd</sup> millennium-1500 BC

Area 100 ha

- Situated on an island in the Rann of Kutch
- Evidence of city planning from 2500 BC
- Monumental architecture
- Houses built of sandstone blocks and mud bricks
- Water harvesting system
- Cisterns and reservoirs for collection of seasonal rainwater
- Funerary structures
- Stratified account of the rise and fall of the Indus Culture through seven successive stages.
- Controlled the movement of goods between the resource areas of Gujarat and the core areas of the Indus plain
- Manufacture of agate beads, shell working and ceramic production
- Habitation and craft activity areas in the lower sectors of the city are organised in blocks divided by north-south and east-west streets.

### **Late Indus**

#### **Chanhudaro**

- Breakdown of planned layout squatter occupation
- Reuse of earlier bricks

## Dholavira

- Breakdown in town planning
- Absence of urban grandeur
- Emergence of smaller nebulous rural settlements

## Growth of Cities

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. All settlements were linked by trade and economic activities as well as religious beliefs and social relations. Most villages covered 1 hectare 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.

	Early Indus	Mature Indus
Grid	Minimally differentiated	Three tier settlement system
Public Architecture	Very little	Present
Social Differentiation	Absent	Present
Script	Absent	Present
Weights	Absent	Present
Cultural Mosaic/Homogeneity	Greater sense of disparity and cultural diversity	Greater sense of unity and integration

	<b>Typesite</b>	<b>Settlement</b>	<b>Houses</b>	<b>Features</b>	<b>Artefacts</b>
<b>Early Indus</b>	Mundigak II	Compact		Well Hearths	Handmade pottery; crude stone disc seal
	Mundigak III			Cemetery at the foot of the mound outside the living area	Wheel made pottery; increase in copper and bronze; TC figures and stone seals
	Mundigak IV	Town		Defence walls; square bastions; use of sun dried bricks	
	Amri IA		No structures	Ditches	Handmade pottery; copper and bronze
3540 BC	Amri IB		Mud brick buildings of many rooms; bricks of irregular sizes; footings of stone; storage jars on house floors		Cattle, sheep, goat, donkey and gazelle.

3240 BC	Amri IC		Mud brick and stone houses; rectangular houses (16x3 m) with paved floors and doors.	Multiple cellular compartments (1m <sup>2</sup> ) probably grain stores	Wheel made pottery; bone tools; TC animal figures
3180-2520 BC	Kot Diji		Defence walls (4-5m high)-lower course is limestone rubble while upper course is of mud brick	Located in agriculturally productive land Defence walls probably for floods	Wheel made pottery; copper
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2600-2480 BC	Rehman Dheri Size 22 ha. Pop 12000	Earliest town plan	Grid pattern of town with roads running nw-se		Beads; wheat and barley grains; cattle, sheep and goats
	Lewan Dar Dariz	Factory site availability of raw materials			Specialised stone tools; beads,



	Tarakai Qila				Wheat and barley, lentils, field peas, water buffalo
2920-2550 BC	Kalibangan		Use of dried brick and stone for domestic structures and defence walls; standardisation of bricks 3:2:1	Hearths; above and below ground ovens; Ploughed field surface with furrow in 2 directions	Shell; beads; copper; steatite
	Harappa Pop 23,500		Burnt bricks mainly used for drains, wells and bathrooms. Sun dried bricks used mainly for fillings. Size 28 x 14 x 7 cm; 4:2:1. Timber used for flat roofs and as frames or lacing for brickwork  5 basic house plans ranging from single room tenements to houses with courtyards and up to 12 rooms to great	Citadel mound and lower town surrounded by a massive brick wall. Citadel had square towers and bastions. Lower town for the general population. Granary with areas for threshing grains. Barrack like group of single roomed tenements were for the poorer	

			houses with several dozen rooms and several courtyards. 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.	classes.	
	Mohenjodaro Pop. 35,000-41,000			Barrack like group of single roomed tenements were for the poorer classes. Range of shops and craft workshops-potters, dyers, metal	

				<p>workers, shell ornament makers and bead makers shops</p> <p>Great Bath - 12 x 7x 3 m. Stairs leading into the bath have timber treads set in bitumen. Floor of sawn bricks set on edge in gypsum mortar with a layer of bitumen sealer sandwiched between the inner and outer brick skins. Water supplied by a large well. Set of rooms surround the bath.</p> <p>Granary</p>	
2100-1900 BC	Lothal	Trading station and dock. Centre of carnelian bead manufacture		<p>Dock is a rectangle basin with a spillway and locking device to control the inflow of tidal wave and permit automatic</p>	

				desilting of the channels. Raised platforms with ventilating channels were probably granaries or warehouses. Specialist workshops- copper, gold and beads.	
	Chanhudaro	Centre of carnelian bead manufacture.			
2200-1700 BC	Kalibangan		Separate fortifications for both the citadel and lower town. No public drains but only soakage jars embedded in the streets.		
<b>Late Indus</b>					

	Chanhudar o		Reuse of earlier bricks	Breakdown of planned layout; squatter occupation	
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