

## Indus Valley civilizations

### Overview

- The Indus River Valley Civilization, 3300-1300 BCE, also known as the Harappan Civilization, extended from modern-day northeast Afghanistan to Pakistan and northwest India.
- Important innovations of this civilization include standardized weights and measures, seal carving, and metallurgy with copper, bronze, lead, and tin.
- Little is understood about the Indus script, and as a result, little is known about the Indus River Valley Civilization's institutions and systems of governance.
- The civilization likely ended due to climate change and migration.

### Geography and time-frame

In 1856, British colonial officials in India were busy monitoring the construction of a railway connecting the cities of Lahore and Karachi in modern-day Pakistan along the Indus River valley. As they continued to work, some of the laborers discovered many fire-baked bricks lodged in the dry terrain. There were hundreds of thousands of fairly uniform bricks, which seemed to be quite old. Nonetheless, the workers used some of them to construct the road bed, unaware that they were using ancient artifacts. They soon found among the bricks stone artifacts made of soapstone, featuring intricate artistic markings.

Though they did not know it then, and though the first major excavations did not take place until the 1920s, these railway workers had happened upon the remnants of the Indus Valley Civilization, also known as the **Harappan Civilization**, after Harappa, the first of its sites to be excavated, in what was then the Punjab province of British India and is now in Pakistan. Initially, many archaeologists thought they had found ruins of the ancient Maurya Empire, a large empire which dominated ancient India between c. 322 and 185 BCE.

The Indus Valley Civilization is often separated into three phases: the **Early Harappan Phase** from 3300 to 2600 BCE, the **Mature Harappan Phase** from 2600 to 1900 BCE, and the **Late Harappan Phase** from 1900 to 1300 BCE.

At its peak, the Indus Valley Civilization may have had a population of over five million people. The Indus cities are noted for their **urban planning**, a technical and political process concerned with the use of land and design of the urban environment. They are also noted for their baked brick houses, elaborate drainage systems, water supply systems, and clusters of large, nonresidential buildings.

The Indus Valley Civilization began to decline around 1800 BCE. Archaeological evidence indicates that trade with Mesopotamia, located largely in modern Iraq, seemed to have ended. The advanced drainage systems and baths of the great cities were built over or blocked. Writing began to disappear, and the standardized weights and measures used for trade and taxation fell out of use.

### **Urban infrastructure and architecture**

By 2600 BCE, small Early Harappan communities had developed into large urban centers. These cities include Harappa, Ganeriwala, and Mohenjo-daro in modern-day Pakistan and Dholavira, Kalibangan, Rakhigarhi, Rupar, and Lothal in modern-day India. In total, more than 1,052 cities and settlements have been found, mainly in the general region of the Indus River and its tributaries.

**Mohenjo-daro** is thought to have been built in the twenty-sixth century BCE; it became not only the largest city of the Indus Valley Civilization but one of the world's earliest major urban centers. Located west of the Indus River in the Larkana District, Mohenjo-daro was one of the most sophisticated cities of the period, with advanced engineering and urban planning.

**Harappa** was a fortified city in modern-day Pakistan that is believed to have been home to as many as 23,500 residents living in sculpted houses with flat roofs made of red sand and clay. The city spread over 150 hectares—370 acres—and had fortified administrative and religious centers of the same type used in Mohenjo-daro.

Both cities had similar organization and featured **citadels**, central areas in a city that were heavily fortified—protected with defensive military structures. Additionally, both cities were situated along the Indus River. This structure would have allowed those at the higher levels of the buildings in either city to look down the river and see into the distance.

The remains of the Indus Valley Civilization cities indicate remarkable organization; there were well-ordered wastewater drainage and trash collection systems and possibly even public baths and **granaries**, which are storehouses for grain. Most city-dwellers were artisans and merchants grouped together in distinct neighborhoods. The quality of urban planning suggests efficient municipal governments that placed a high priority on hygiene or religious ritual.

Harappans demonstrated advanced architecture with dockyards, granaries, warehouses, brick platforms, and protective walls. These massive walls likely protected the Harappans from floods and may have deterred military conflicts. Unlike Mesopotamia and Ancient Egypt, the

inhabitants of the Indus Valley Civilization did not build large, monumental structures. There is no conclusive evidence of palaces or temples—or even of kings, armies, or priests—and the largest structures may be granaries. The city of Mohenjo-daro contains the Great Bath, which may have been a large, public bathing and social area.

### **Innovation and exchange**

The people of the Indus River Valley Civilization achieved many notable advances in technology, including great accuracy in their systems and tools for measuring length and mass. Fire-baked bricks—which were uniform in size and moisture-resistant—were important in building baths and sewage structures and are evidence that Harappans were among the first to develop a system of **standardized weights and measures**. The consistency of brick size across cities also suggests unity across the various urban areas, which is evidence of a broader civilization.

Harappa, Mohenjo-daro, and the recently partially-excavated Rakhigarhi demonstrate the world's first known urban sanitation systems. The ancient Indus systems of sewage and drainage developed and used in cities throughout the Indus region were far more advanced than any found in contemporary urban sites in the Middle East and even more efficient than those in many areas of Pakistan and India today. Individual homes drew water from wells, while wastewater was directed to covered drains on the main streets. Houses opened only to inner courtyards and smaller lanes, and even the smallest homes on the city outskirts were believed to have been connected to the system, further supporting the conclusion that cleanliness was a matter of great importance.

Harappans are known for **seal carving**—the cutting of patterns into the bottom face of a **seal**, a small, carved object used for stamping. They used these distinctive seals for the identification of property and to stamp clay on trade goods. Seals—decorated with animal figures, such as elephants, tigers, and water buffalos—have been one of the most commonly discovered artifacts in Indus Valley cities.

The Indus River Valley Civilization is considered a Bronze Age society; inhabitants of the ancient Indus River Valley developed new techniques in **metallurgy**—the science of working with copper, bronze, lead, and tin. Harappans also performed intricate handicraft using products made of the semi-precious gemstone Carnelian.

Evidence shows Harappans participated in a vast maritime—sea—trade network extending from Central Asia to the Middle East. The civilization's economy appears to have depended significantly on trade, which was facilitated by major advances in transport technology. The Harappan Civilization may have been the first to use wheeled transport, in the form of oxcarts that are identical to those seen throughout South Asia today. It also appears they built boats and watercraft—a claim supported by archaeological discoveries of a massive, dredged canal, and what is regarded as a docking facility at the coastal city of Lothal. Harappans also engaged in shellworking, and shells used in their crafts have origins from as far away as the coast of modern-day Oman.

Trade focused on importing raw materials to be used in Harappan city workshops, including minerals from Iran and Afghanistan, lead and copper from other parts of India, jade from China, and cedar wood floated down rivers from the Himalayas and Kashmir. Other trade goods included terracotta pots, gold, silver, metals, beads, flints for making tools, seashells, pearls, and colored gemstones, such as lapis lazuli and turquoise.

One of the ways historians know about the maritime trade network operating between the Harappan and Mesopotamian civilizations is the discovery of Harappan seals and jewelry at archaeological sites in regions of Mesopotamia, which includes most of modern-day Iraq, Kuwait, and parts of Syria. Long-distance sea trade over bodies of water—such as the Arabian Sea, Red Sea and the Persian Gulf—may have become feasible with the development of plank watercraft that were each equipped with a single central mast supporting a sail of woven rushes or cloth.

Historians have also made inferences about networks of exchange based on similarities between artifacts across civilizations. Between 4300 and 3200 BCE—part of the **Chalcolithic period**, also known as the Copper Age—ceramics from the Indus Valley Civilization area show similarities with southern Turkmenistan and northern Iran. During the Early Harappan period—about 3200 to 2600 BCE—there are cultural similarities in pottery, seals, figurines, and ornaments that document caravan trade with Central Asia and the Iranian plateau.

### **Religion, language, and culture**

Little is known about Harappan religion and language. A collection of written texts on clay and stone tablets unearthed at Harappa—which have been carbon dated 3300-3200 BCE—contain trident-shaped, plant-like markings that appear to be written from right to left. There is

considerable debate about whether it was an encoded language at all and whether it is related to Indo-European and South Indian language families. The Indus script remains indecipherable without any comparable symbols, and is thought to have evolved independently of the writing in Mesopotamia and Ancient Egypt. Researchers are using technological advances in computer science in order to attempt to decipher it.

The Harappan religion also remains a topic of speculation. It has been widely suggested that the Harappans worshipped a mother goddess who symbolized fertility. In contrast to Egyptian and Mesopotamian civilizations, the Indus Valley Civilization seems to have lacked any temples or palaces that would give clear evidence of religious rites or specific deities.

Many Indus Valley seals include the forms of animals; some depict the animals being carried in processions, while others show mythological creations like unicorns, leading scholars to speculate about the role of animals in Indus Valley religions. Interpretations of these animal motifs include signification of membership in a clan, elite class, or kin structure. One seal from Mohenjo-daro shows a half-human, half-buffalo monster attacking a tiger. This may be a reference to the Sumerian myth of a monster created by Aruru—the Sumerian earth and fertility goddess—to fight Gilgamesh, the hero of an ancient Mesopotamian epic poem. This is a further suggestion of international trade in Harappan culture.

Indus Valley excavation sites have revealed a number of distinct examples of the culture's art, including sculptures, seals, pottery, gold jewelry, and anatomically detailed figurines in terracotta, bronze, and steatite.

Among the various gold, terracotta, and stone figurines found was a figure of a priest-king displaying a beard and patterned robe. Another figurine in bronze, known as the *Dancing Girl*, is only 11 centimeters high and shows a female figure in a pose that suggests the presence of some choreographed dance form enjoyed by members of the civilization. Terracotta works also included cows, bears, monkeys, and dogs. In addition to figurines, the Indus River Valley people are believed to have created necklaces, bangles, and other ornaments.

### **Institutions and hierarchies**

How was Harappan society organized, and what institutions functioned as centers of authority? Archaeological records provide no immediate answers regarding a center of authority or depictions of people in power in Harappan society, and there are few written records to consult. However, Harappan artifacts display an extraordinary uniformity. Pottery, seals, weights, and

bricks with standardized sizes and weights, suggest some form of authority and governance, though it is not clear what that form was exactly.

Over time, various theories have developed concerning Harappan systems of rule. One theory is that there was a single state encompassing all the communities of the civilization; this theory is supported by the similarity in artifacts, the evidence of planned settlements, the standardized ratio of brick size, and the apparent establishment of settlements near sources of raw material. Another theory posits that there was no single ruler, but rather a number of leaders representing each of the urban centers, including Mohenjo-daro, Harappa, and other communities. It seems likely that there was not one centralized and all-powerful state but that various classes and centers of power were integrated into a decentralized structure.

Written records gave historians a great deal of insight into the civilizations of ancient Mesopotamia and Egypt, but very few written materials have been discovered in the Indus valley. Though seal inscriptions do seem to have written information, scholars have not been able to decipher the Indus script. As a result, they have had considerable difficulty understanding the nature of the state and religious institutions of the Indus Valley Civilization. We know relatively little about their legal codes, procedures, and systems of governance.

Historians have made educated guesses about the nature of Harappan civilization from the available artifacts and physical structures. Some experts have theorized that the Indus Valley Civilization had no rulers as we understand them, that everyone enjoyed equal status. Some evidence in support of this conclusion is that most Harappan residents seem to have enjoyed relatively equal health and that there were not many elite burials, which archaeologists have discerned through **mortuary analysis**—the study of graves and deposits containing human remains.

However, this does not conclusively prove that Harappan society lacked any social hierarchy, and it could possibly be the result of other factors, like different beliefs about the afterlife. Some scholars point to varying house sizes and varied heights of structures to suggest that different social classes occupied different levels in the cities. Others identify items such as painted pottery, bangles, beaded ornaments, and even location within cities as indicators of wealth. A considerable degree of craft specialization also suggests some degree of socio-economic stratification.

It is widely believed that the Harappan civilization was a peaceful one that did not engage in any warfare, but there is not conclusive evidence to support this belief, and some archaeologists consider it a pervasive myth. Some scholars argue that Harappans were peaceful primarily because there were no natural enemies due to the geographic location of the major cities. Weapons have been found at sites, but there is debate as to whether they were used in conflict with other groups or as defense against wild animals.