

## Indus Valley Civilization

### 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.

Scholars are still piecing together information about this mysterious civilization, but they have learned a great deal about it since its rediscovery. Its origins seem to lie in a settlement named **Mehrgarh** in the foothills of a mountain pass in modern-day Balochistan in western Pakistan. There is evidence of settlement in this area as early as 7000 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.

This map shows the extent of the Indus Valley Civilization during the Mature Harappan Phase. Civilization is highlighted in brown in the area of modern-day Pakistan and northern India. The rest of the map is green and is a partial map of India and the area northwest of Pakistan.

Indus Valley Civilization in the Mature Harappan Phase (2600-1900 BCE). [Image](#) courtesy Wikimedia Commons.

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.

Archaeological remains at the lower town of Lothal. The bricks are uniform in size and are gray-brown colored. They are in a field of dead grass and are bordered by low-lying green trees and shrubs.

Archaeological remains at the lower town of Lothal, showing uniform fire-baked bricks. Fire-baked bricks will hold up to moisture, making them suited to building baths and sewers. [Image](#) courtesy Wikimedia Commons.

**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.

The Great Bath at Mohenjo-daro: Amid the brick ruins of a 3rd-millennium BCE city, stairs descend on two sides into a large, rectangular brick-lined pit. Wooden stakes and wire encircle the perimeter, preventing entry by modern-day tourists.

Excavated ruins of Mohenjo-daro, with the Great Bath in the foreground and the Buddhist Stupa in the background. [Image](#) courtesy Wikipedia.

## 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.

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.

A modern-day oxcart in Punjab, India. Two men sit on an ox-pulled cart that travels down a tree-lined dirt road.

A modern-day oxcart in Punjab, India. [Image](#) courtesy Wikimedia Commons.

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.

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.

### **Decline**

The Indus Valley Civilization declined around 1800 BCE, and scholars debate which factors resulted in the civilization's demise. One theory suggested that a nomadic, Indo-European tribe called the Aryans invaded and conquered the Indus Valley Civilization, though more recent evidence tends to contradict this claim. Many scholars believe that the collapse of the Indus Valley Civilization was caused by climate change. Some experts believe the drying of the Saraswati River, which began around 1900 BCE, was the main cause for climate change, while others conclude that a great flood struck the area.

Various elements of the Indus Civilization are found in later cultures, suggesting the civilization did not disappear suddenly due to an invasion. Many scholars argue that changes in river patterns caused the large civilization to break up into smaller communities called **late Harappan cultures**.

Another disastrous change in the Harappan climate might have been eastward-moving **monsoons**, or winds that bring heavy rains. Monsoons can be both helpful and detrimental to a climate, depending on whether they support or destroy vegetation and agriculture.

By 1800 BCE, the Indus Valley climate grew cooler and drier, and a tectonic event may have diverted or disrupted river systems, which were the lifelines of the Indus Valley Civilization. The Harappans may have migrated toward the Ganges basin in the east, where they could have established villages and isolated farms. These small communities would not have been able to produce the same agricultural surpluses to support large cities. With the reduced production of goods, there would have been a decline in trade with Egypt and Mesopotamia. By around 1700 BCE, most of the Indus Valley Civilization cities had been abandoned.