



## A Historical Review of Mohenjo-Daro and Harappan Civilization in Pakistan

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**Abstract:** The ancient Indus civilization, also known as Harappan civilization is famous for the ruins of two ancient cities, Mohenjo-Daro and Harappa, which remained unknown for thousands of years due to little written record in human history. It was not in the 1820s, when archaeologists excavated a large number of stone tools, bronzes, seals and agricultural remains in the two cities, that the world began to learn about the secret of Mohenjo-Daro and Harappan civilization. The total number of Harappan civilization sites may be as many as 2,000, but most of them are still buried underground, awaiting further excavation. Nearly 200 sites have been excavated or are being excavated, ranging from ancient couple tombs to ancient city ruins. Mohenjo-Daro, which means "hill of death" in the local language, is an ancient city of the civilization of the Indus valley located on the right bank of the Indus River, northern Sindh province, southern Pakistan. It was built around 2500 BC and was abandoned in 1900 BC. In the sites of both cities, archaeologists discovered the advanced scientific and technological achievements of the ancient Indus civilization, but they were puzzled by the loss of the civilization. This paper starts with the introduction of the ancient Indus civilization before moves to the discovery process of Harappa and Mohenjo-Daro. Literature review on the studies on Harappa and Mohenjo-Daro is presented with a brief analysis in the end. After giving an outline of the civilization, the paper tries to solve the mystery of the loss of civilization, but so far no agreed understanding of the cause has been reached. By reviewing the civilizations of Harappa and Mohenjo-Daro, the paper presents to readers the ancient civilizations of Pakistan and enhance their understanding of human science, technology and culture in ancient times.

**Keywords:** Mohenjo-Daro, Harappa , civilization, Indus, Pakistan

### Introduction

The ancient Indus civilization, also known as Harappan civilization, along with ancient China, Egypt and Mesopotamia, is regarded as one of the oldest civilizations of the ancient world. Ancient Indus refers to today's India, Pakistan, Bangladesh, Bhutan, Nepal and other countries of the South Asian subcontinent collectively. The ancient Indus people created a brilliant civilization in the Indus River valley, a long trans boundary river in the Continent of Asia that is shared by the countries of China, India, and Pakistan. Considered one of the world's largest rivers and the longest river in Pakistan, The Indus River is well known for the soil that is fertile and suitable for agricultural production,

providing favorable conditions for the emergence and development of the ancient Indus Valley Civilization.

Harappan civilization sites are located along the Indus and Sarasvati rivers and their tributaries. The people of the time lived in planned communities of houses built of mud brick, burnt brick, and chiseled stone. The sites discovered today include Harappa, Mohenjo-Daro, Dholavira and Ropar, with carved stone gateways and fortification walls. Around the citadels were an extensive range of water reservoirs. Trade with Mesopotamia, Egypt and the Persian gulf is in evidence between 2700-1900 BC.



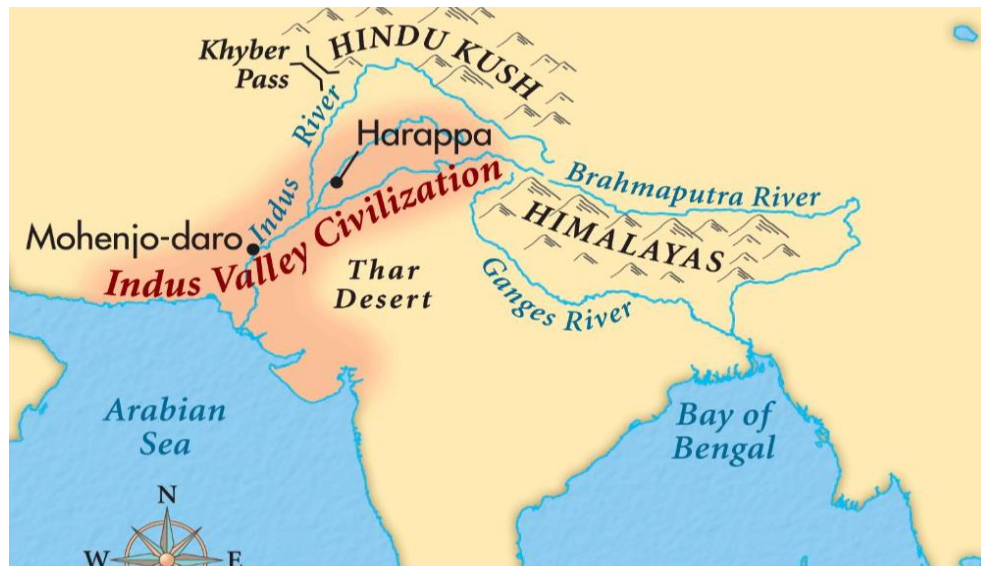


Indus Valley Civilization (Imagine Courtesy: Crystalinks<sup>[1]</sup>)

### Discovery and Excavation

In the 1920s, some archaeologists discovered more than one hundred ancient township and village sites of various sizes in the Indus Valley in today's Pakistan, dating from about 4,500 to 3,700 years ago, including two larger urban sites: Mohenjo-Daro and Harappa. Both ancient urban sites are larger than a five-kilometer radius. Harappa was discovered earlier, so this discovery was named as Harappan civilization, which was also known as Indus civilization. Geographically, Harappan civilization is located in what is today Pakistan area (Figure 1). Prior to the emergence of Harappan

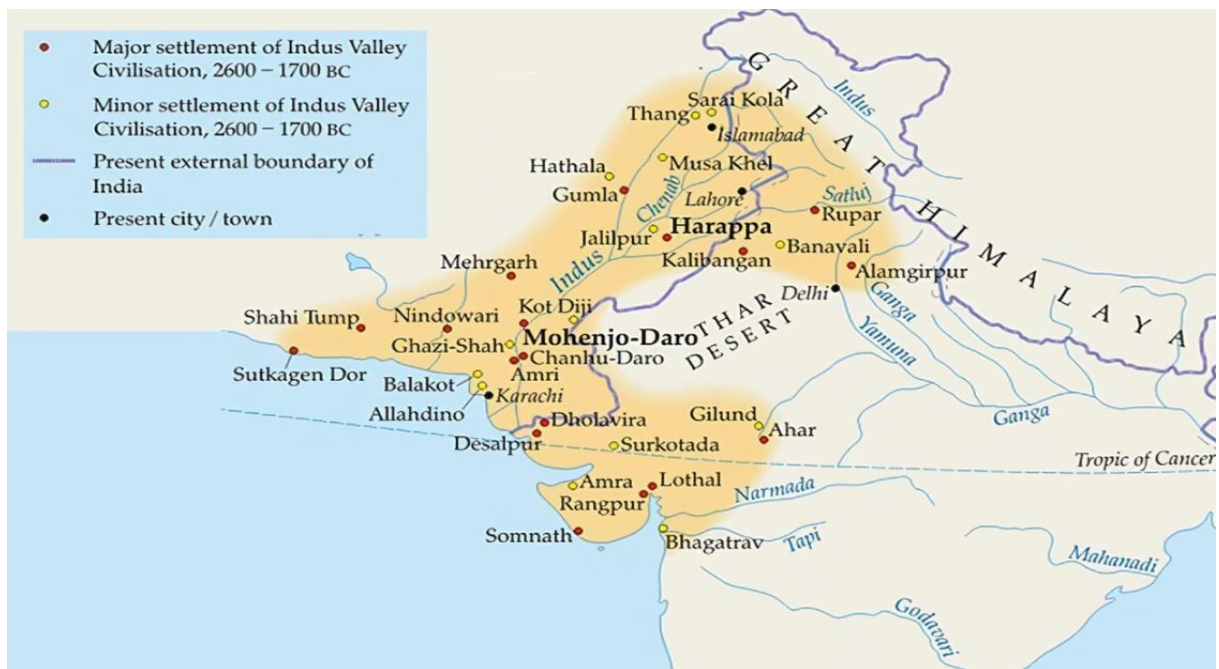
civilization, it was well accepted that the earliest civilization in the South Asian subcontinent was the Vedic civilization founded by Aryans that existed between 1,500 BC and 600 AD. It was not until 1922 when archaeologists excavated the cities of Harappa and Mohenjo-Daro in what is now the Punjab province of Pakistan, that the world discovered that there was an ancient civilization on the subcontinent that was older than the Vedic civilization. This civilization had two distinctive cities with well-designed houses and streets that reflected the precocious nature of Harappan civilization.



Location of Mohenjo-Daro and Harappa (Imagine Courtesy: Encyclopaedia Britannica, Inc. UIG)

In 1921, Rakhaldas Bandyopadhyay, Director General of the Archaeological Survey of India, was traveling in Pakistan to search for Buddhist relics. A local Buddhist monk led him to the mound since the monk believed it was sputa and its surroundings would have been the site of a Gandhara civilization, the cradle of Buddhist Civilization. Rakhaldas Bandyopadhyay's excavation work marked the official discovery of Mohenjo-Daro. In the 1930s, under the leadership of John Marshall, D. K. Dikshitar and Ernest Mackay, more excavations were conducted at the very site.

In 1945, Ahmad Hasan Dani and Mortimer Wheeler, two eminent archaeologists, carried out further excavations and found more relics and remains in Mohenjo-daro. The last major series of excavations were conducted in 1964 and 1965 by Dr. George F. Dales. The site remained untouched for about 20 years for the sake of protection. It was not in the 1980s that under the leadership of Dr. Michael Jansen and Dr. Maurizio Tosi, more excavations were conducted with less invasive archaeological techniques, such as architectural documentation, surface surveys and localized probing.



Geographical Extension of Indus-Valley Civilization( Imagine Courtesy: Encyclopedia Britannica,Inc<sup>[2]</sup>)

So far, archaeologists discovered more than 250 Harappan civilization sites, covering a vast area from the present-day Uttar Pradesh in India in the east, Gujarat in India in the south, Balochistan in Pakistan in the west, and Punjab in Pakistan in the north, with Harappa as the center in the north and Mohenjo-Daro in the south. The distance ranges about 1,550 km from east to west and 1,100 km from north to south, a vast area of more than 1.7 million square kilometers. The sites had 1,056 cities and a population of about five million people.

The total number of Harappan civilization sites may be as many as 2,000, but most of them are still buried underground, awaiting further excavation. Nearly 200 sites have been excavated or are being excavated, ranging from ancient couple tombs to ancient city ruins. Harappa enjoys a typical river agricultural civilization, featuring in its well-developed urban culture, including city sites such as Harappa and Mohenjodaro.



Sites of Mohenjo-Daro ( Imagine Courtesy: WorldAtlas)

In the ruins of the Harappan civilization sites, archaeologists discovered the earliest writings signs and symbols of Indus valley, which were often engraved on seals made of Steatite, a relatively soft stone found in river beds. Aside from that,

copper, terracotta, chert, faience, and agate were used to make those seals. These signs are also known as Indus Seals or Harappa seals.



Front and back of seal with two-horned bull and inscription, Indus Valley Civilization, c. 2000 B.C.E., steatite, 1 1/4 x 1 1/4 inches (Cleveland Museum of Art)<sup>[3]</sup>

A number of more than 2,500 seals have been unearthed. The seals are of size 2×2 square inches and are engraved with inscriptions on the front and perforated protrusions on the back, which are convenient for people to hang. Some Harappan civilization seals were discovered on the dead bodies. These seals have a threaded hole, implying that they were used as amulets or as a necklace. It is estimated that there are more than 500 signs or symbols on the seal, but unfortunately, they have not been fully deciphered. The inscriptions on the seal also have various patterns, and the themes are mostly animals that were common at that time. Animals on the seal include Unicorn bull, rhinoceros, tiger, elephant, buffalo, etc. These seals have a remarkable rendering of animals in different moods.

The animal frequently represented is an ox-like beast with a single horn-popularly known as “Unicorn”. Other animals include horned bull, buffaloes, bison, goat, the Brahmanical bull with hump, tiger, elephant, antelope, fish-eating crocodile and rhinoceros.

The meaning and purpose of the seals have been a mystery since they were unearthed, although some scholars believed they were used to show ownership of property, and others claimed they were likely to be important components of trade. Among various interpreting hypotheses, Pro. Zhou Yushu, the president of Inner Mongolia Honder College of Arts and Sciences, after much comparison work with ancient Chinese characters, proposed that the symbols on the seals might be ancient Chinese characters and under his guidance, his team has been working on the interpreting of hundreds of the seals. Although people today are still not able to interpret the messages on the seals, or to understand the intended purpose and usage of the seal, its iconography bring people a step closer to understanding the people of the Indus Valley Civilization and the unique ancient spiritual culture.



Seal with A Unicorn and Inscription<sup>[4]</sup>

### **Mohenjo-Daro**

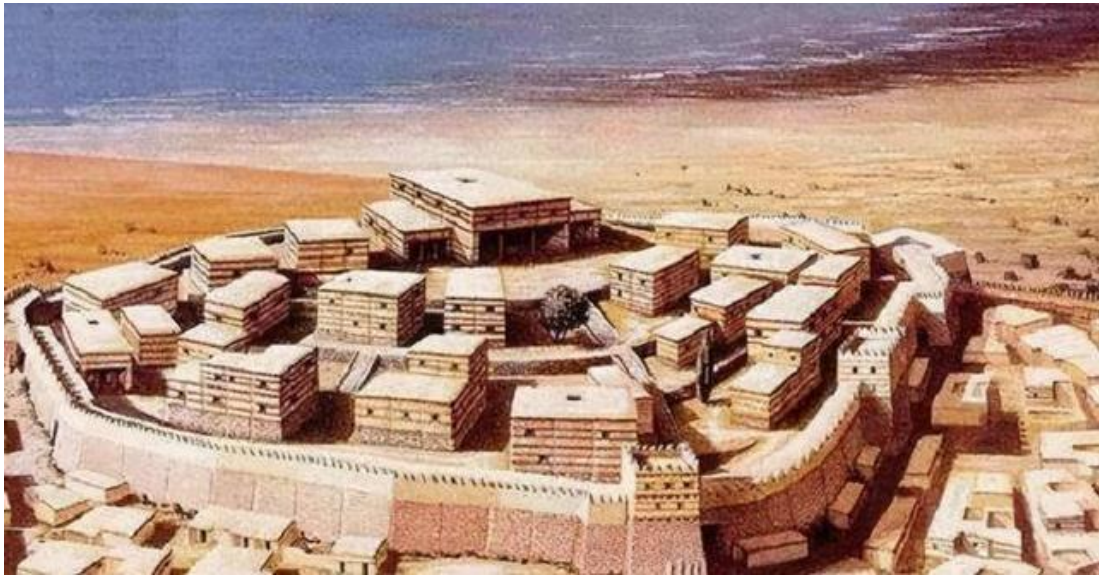
Mohenjo-Daro (2600 BC - 1800 BC) is a Sindhi phrase meaning “mound of the Muhain (dead).” Later the name morphed to “Mohenjo Daro” – the “mound of happy voyagers”. It is an ancient city of the civilization of the Indus valley located on the right bank of the Indus River, northern Sindh province, southern Pakistan. It lies on the flat alluvial plain of the Indus, about 50 miles (80 km) southwest of Sukkur.



Remains of a sputa-like stone tower, Mohenjo-Daro, Sindh province, southeastern Pakistan.( Imagine Courtesy: Top Photo Group/ Thinkstock)

Mohenjo-Daro was one of the world's early ancient cities, known as the metropolis of the ancient Indus Valley civilization, and other ancient civilizations of the period include ancient Egypt, Mesopotamia and Crete. The

archaeological site of Mohenjo-Daro, together with Harappa, was inscribed on the World Heritage List by UNESCO in 1980 as a cultural heritage site.



Mohenjo-Daro (Illustration, Imagine Courtesy: World History Encyclopedia)

### Literature Review

The studies and research on the Mohenjo-Daro and Harappan civilizations are related to Indus civilization studies. Since the first excavation in the 1920s, European scholars, as well as scholars from India and Pakistan have carried out many large-scale field surveys and excavations in the sites with fruitful results. More than 400 monographs and a large number of research papers have been published on the subject. A search of Google Scholar for the keyword "Indus civilization" shows 253,000 entries, and a search for the keyword "Harappa" shows 18,400 entries. After analyzing the studies of the two sites, the author divides the literature on Indus civilization into three main categories.

1. The excavation reports on the Mohenjo-Daro and Harappa sites. Scholars and archaeologists made productive reports such as **Excavations at Harappa** by Madho Vats<sup>[5]</sup>, **Mohenjo-daro and the Indus Civilization** by John Marshall<sup>[6]</sup>, **Excavations at Farmana** by Vasant Shinde<sup>[7]</sup>, **Further Excavations at Mohenjo-daro, and Chanhu-Daro Excavations 1935-36** by Ernest Mackay<sup>[8]</sup>, **Excavation at Surkotada 1971-72 and Exploration in Kutch** by Vats M<sup>[9]</sup>, **Excavations at Harappa** by Jagat Joshi, **Field Reports 1974-1985 from Neolithic Times to the Indus Civilization** by Jarrige C., Jarrige J.F., Meadow R, et

al<sup>[10]</sup>, **Lothal: a Harappan Port Town (1955-62)** by Ranganatha Rao<sup>[11]</sup>. These reports presented detailed discovery and findings of the sites from an archaeological point of view and they are of great both academic and practical significance in understanding the two sites.

2. Comprehensive and holistic studies on the Mohenjo-Daro and Harappa sites. Books and monographs were published including **The Earliest Civilization of South Asia: Rise, Maturity and Decline** by Braj Basi Lal<sup>[12]</sup>, **The Indus Civilization** by Mortimer Wheeler<sup>[13]</sup>, **Ancient Cities of the Indus Valley Civilization** by Jonathan Kenoyer<sup>[14]</sup>, **The Indus Civilization: a Contemporary Perspective** by Gregory Posch<sup>[15]</sup>, **the Indus Civilization: an Interdisciplinary Perspective** by Dharma Pal Agrawal<sup>[16]</sup>, **the Ancient Indus Valley: New Perspectives** by Jane McIntosh<sup>[17]</sup>, **the Ancient Indus: Urban-ism, Economy, and Society** by Rita Wright, **The Rise of Civilization in India and Pakistan** by Bridget Allchin and Raymond Allchin<sup>[18]</sup>,

3. Mohenjo-Daro and Harappa related studies. Studies were conducted on the various fields of the two sites. For example: **The Emergence Of Agricultural Societies In South India: Botanical And Archaeological Perspectives** by Stephen Weber and William Belcher<sup>[19]</sup>, **The Emergence of**

*Agricultural Societies in South Asia: Botanical and Archaeological Perspectives* by Fu Daolian<sup>[20]</sup>, *the Exteral Trade of the Indus Civilization* by Chakrabarti<sup>[21]</sup>, *Encounters:the westerly Trade of the Harappan civilization* by Shereen Ratnagar<sup>[22]</sup>, *Cultural Relations between the Indus and the Iranian Plateau during the Third Millennium BC* by Toshiki Osada and Michael Witzel<sup>[23]</sup>, *Harappan Architecture and civil Engineering* by Jagat Pati Joshi<sup>[24]</sup>, *the Social Lives of Figurines: Recontextualizing the Third-Millennium BC Terracotta Figurines from Harappa* by Sharri Clark<sup>[25]</sup>; *Harappan Terracotta Art* by Durga Prasad Sharma<sup>[26]</sup>, *Corpus of Indus seals and inscriptions:Collections in India* by Asko Parpola,*Corpus Of Indus Seals And Inscriptions:New Material,Untraced Objects,And Collections Outside India And Pakistan* by Asko Parpola<sup>[27]</sup>,*Deciphering the Induis Script* by Asko Parpola<sup>[28]</sup>, *Corpus Of Texts In The Indus Script* by Kimo Koskenniemi<sup>[29]</sup>, *The Harappan Script a New Perspective* by Vijayendra<sup>[30]</sup>. The list can be continued with the further study of the two sites. It can be seen the above studies include different aspects of Mohenjo-Daro and Harappa, ranging from agriculture to economy, language to trade, culture exchange to sculpture, social lives to architecture. Among these studies, the scripts on the Indus seals remained unsolved and many scholars today are trying to reveal the mystery by using the latest technology like computer science and AI.

In summary, with the joint efforts of scholars from countries all over the world, the study of Indus civilization has been fruitful and productive. However, compared with the archaeological work, the current research on the history of the Indus is relatively limited. The existing works on academic history are mainly focused on archaeological discoveries and reports. Little research has been done on the in-depth discussion on the historical background of archaeological work in each period. Many research views

differ from each other. Many research views, archaeological work and academic contributions were put forward before Pakistan and India became dependent. After the partition of the two countries, the study of Indus civilization was artificially divided into two regions due to the long-standing hostility between the two countries, and under the interference of political and other external factors, the academic history research on the Indus civilization has much more space for scholars to explore.

### **Architecture and City Planning of Mohenjo-Daro and Harappan Civilization**

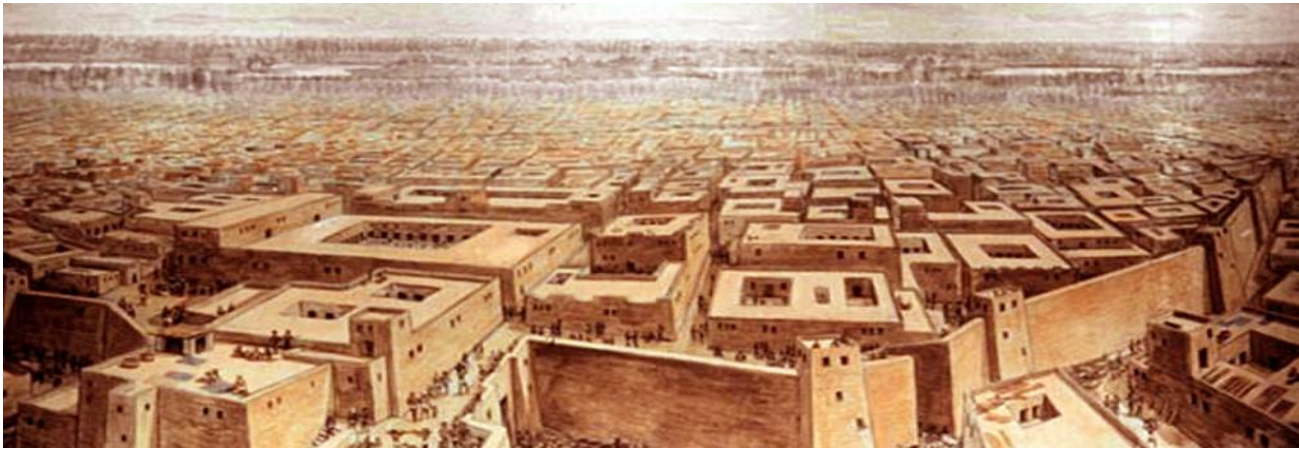
Judging from the excavations at the site, archaeologists believed Harappan civilization belonged to the Bronze Age urban civilization. The size and layout of the two cities, Harappa and Mohenjo-Daro, are very similar, with Mohenjo-Daro being more well preserved. Mohenjo-Daro covers an area of about 850,000 square meters, with a population of about 30,000-40,000 people, and is divided into two parts: the Acropolis and the Lower City. The acropolis has a moat and walls with towers, public buildings and large granaries. There is a large pool in the center of the city, which experts analyze may be related to the religious rituals held by the city's residents. The streets of the lower city run north-south or east-west, either in parallel or at right angles to each other, and the corners of the buildings are rounded. The houses on both sides of the streets in the city were generally made of burned red bricks and arranged very neatly. The whole city is divided into residential, commercial and handicraft areas, in which there were houses, stores and restaurants. According to the findings of the excavated tombs, there was already a division between the rich and the poor at that time. The rich lived in two or three-story buildings with spacious courtyards, and even children's toys were studded with gold and silver jewels. The poor, on the other hand, lived in low, humble huts and had to use crude household items made of clay and shells.



View of brick and rammed Earth homes and streets of Harappa, Pakistan. (Photo by Atif Gulzar, Courtesy: ThoughtCo)

The overall city plan of Mohenjo-Daro was very advanced and extremely scientific. The whole city is divided into several parts, including a castle on high ground and a lower urban area. A wide street runs from north to south, intersected at right angles by small east-west streets every few meters. In addition, there is an irregular network of alleys connected to the side streets. The walls of the residential houses are thick, indicating at least two-story houses, most of which are multi-room buildings, some of which are large and include several sets of courtyards, while others are simple one-room houses.

Houses were built of fired bricks, and according to archaeologists, "the level of detail in bricklaying could hardly be improved"<sup>[31]</sup>. The ground floor side of most homes facing the road was rough and windowless - an urban custom designed to protect against inclement weather, noise, odors, neighborhood nuisances and robbers sometimes. In most cases, the main entrance of the house is located in the back alley, opposite a spacious foyer and forward to a courtyard where the house is very well lit and ventilated.



Reconstruction of Mohenjo-Daro. (Image Courtesy: University of Minnesota.)

While Europeans were still living in villages and Stonehenge was being built in the British Isles, the Harappans living in the Indus Valley already had one of the most advanced water and sewage systems in the world. In Mohenjo-Daro, a network of wells provided a convenient source of fresh water for every

neighborhood. Almost every home has a bathing platform, and many have toilets. The city also had an extensive drainage system to carry water wastes away.

Drainage System in Harappa (Image Courtesy: Ancient Origins)



The Great Bath, excavated in 1925, is a brick structure, which measured 12 m by 7 m and is nearly 3 m deep from the surrounding pavement. It is evidently supplied by 3 large well placed in an adjacent room. Surrounding the bath, there are porticos and sets of rooms, while a stairway led to an upper story. The bath was linked with some sort of ritual bathing, which was very common in Indian life right from ancient times to till date. Most researchers believe that the Great Bath was more than just a public bathing area. The bath site and the numerous bathing platforms suggest that ablution rituals were prevalent in the society of the time, and that such rituals are still common in Pakistan and India today.

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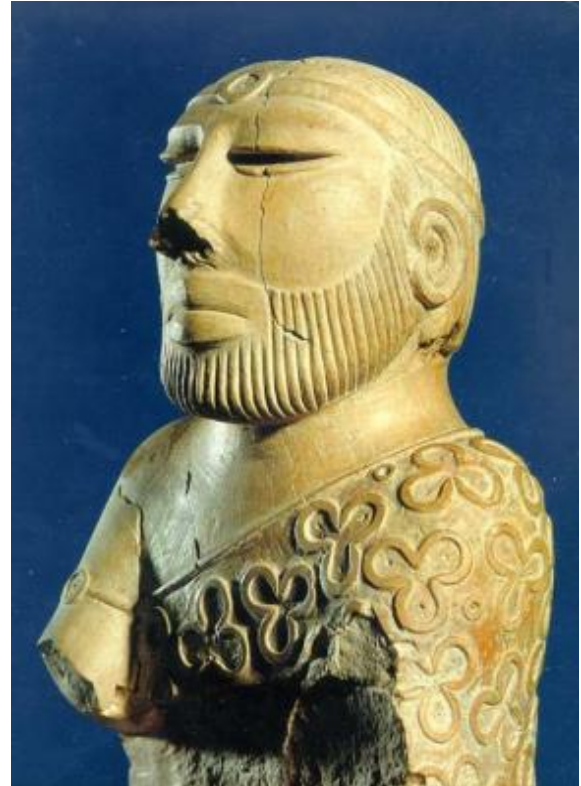




The Great Bath, Mohenjo-Daro, Sindh province, southeastern Pakistan. ( Copyright J.M. Kenoyer/Harappa.com; Imagine Courtesy: Department of Archaeology and Museums, Government of Pakistan )

Archaeologists have deduced that commerce, agriculture, and processing industries were extremely developed during the Mohenjo-Daro period. Although the general lifestyle of the people may have been quite simple, limited to the production and economic levels of the time, there is still no shortage of luxury items found by archaeology. In terms of art, there is a stone statue of a man of 17.5 cm high, one of the few stone sculptures found in Mohenjo-Daro, which is considered a fine piece of art. The statue is made from white soapstone and named “Priest King”. It was unearthed during the excavation in 1927 and now it is kept in the National Museum of Pakistan in Karachi. Archaeologists believed the statue was a key in revealing the past relationship of the Indus Valley Civilization’s connection with Mesopotamia.

“Priest King” statue, Mohenjo-Daro, late Mature Harappan period, Karachi National Museum, Pakistan



Some fine metalwork, jewelry ornaments and pottery have also been continuously excavated. In addition, a large



Jewelry from Mohenjo-Daro. (Image courtesy: [www.harappa.com](http://www.harappa.com))

The excavation of the sites on Mohenjo-Daro and Harappa has revealed the extraordinary history-making power of the ancient Darabithans, who were capable of designing and building complicated and high-level architecture. The remains of the cities also include various agricultural production tools and handicraft tools; agricultural products include cotton, wheat, dates, melons; domestic animals and poultry have been widely domesticated, with species such as buffalo, sheep, camels, dogs, horses, chickens, etc.; industrial products include vegetal pottery, colored pottery, yarn, cloth, bronze vessels; the most striking thing is that among the relics, seals with rhinoceroses and a large number of stone weights have been found. It can be inferred that the Darovidians at that time had mastered the rules of decimal system of calculation, and the basic unit of weight was 0.86 kilograms. A fragment of a ruler made of shells is engraved with precise scales; ships are also found in the city, which leads one to believe that commerce had developed at that time, based on considerable development of agriculture and handicrafts. Many merchants gathered in the city to conduct business and trade overseas.

number of seals with mysterious inscriptions or designs have been found at both Mohenjo-Daro and Harappa.



Cubical weights in graduated sizes, Harappa. The smallest weight in this series is 0.856 grams and the most common weight is approximately 13.7 grams. (Image Courtesy: Harappa Archaeological Research Project, <https://www.harappa.com/>)

Among the excavated artifacts, there are also a large number of beautifully shaped beads of various kinds including stone beads, bone beads, material beads and other human ornaments, and the capital city is one of the characteristics of Harappan culture. The beads of Harappa include Carnelian beads, Terra cotta beads, Steatite beads, Agate beads, Faience beads, Lapis beads, Serpentine beads, Garnet beads, Tenebrae beads, and Amazonite beads. Amazonite, sea shell beads, copper beads, etc. A large number of ancient artifacts, such as figurines, bone carvings, paintings, etc., have been found in these two areas, especially seals, of which there are more than 2,000. Although they have not been accurately identified so far, it is reasonable to assume that the culture and art of the time had reached a high level.

### **The Loss of Mohenjo-Daro and Harappan Civilization.**

Mohenjo-Daro and Harappan civilization left a profound impact on human history. However, archaeologists are still confused about the loss mystery of Mohenjo-Daro and Harappan civilization since there was little record found. How did a human society functioning under a high level of organization turn into a ruin? Why was such brilliant civilization lost without a trace? There are several hypotheses.

1. Floods: The Indus River might be the main reason to cause massive floods to the cities and Mohenjo-Daro, which were rebuilt repeatedly from the ruins after the floods. It was found that Mohenjo-Daro was rebuilt for as many as seven times and it is possible that the city was destroyed into ruins after a major flood.

2. Droughts: Evidence of severe drought was found in Indus 4,000-3,500 years ago, and abrupt climate change has emerged as a possible cause of the decline of the civilization.

3. Foreign Invasion: According to the archaeological proof of genocide with unburied skeletal remains scattered in Mohenjo-Daro, some scholars assumed that the foreign invasion is the reason for the decline of Harappan civilization.

4. Epidemic: With the findings of excavated bones with the posture of painful struggle before life, some scientists assumed that a plague epidemic might be the decline of Harappan civilization, though little proof of the epidemic was discovered in the region.

5. Tectonic disturbances: Some geologists believed that a major earthquake struck the city and caused the decline of the civilization.

6. Nuclear attack. apart from the above theories, some archaeologists put forward that the city may have been destroyed due to a sudden nuclear attack. Although a limited number of skeletons were found, it seems that death came to the people quietly and quickly. Interestingly, there is an epicenter of around 45 meters in diameters at the center of the city where the terrain and buildings appear to be crystallized as if they were exposed to a massive heat source. On the buildings located near the center of the city, scientists have found that the bricks of the walls that are faced towards the exterior and looking away from the epicenter are also

fused or melted. However, this could have only been achieved, according to researchers, by exposing the buildings to a temperature of above 1500°centigrade. No weapons could have caused such a devastating impact on the city buildings except a nuclear explosion.

### Conclusion

Harappan civilization enjoys a unique position in human history. As the excavation of Harappan and Mohenjo-Daro Civilization site continues, more details will be undoubtedly discovered. The causes for the destruction of the this great ancient civilization vary widely, from foreign invasion, flooding, and foreign invasion to nuclear attack. Harappan civilization leaves too many questions for the people today to answer. However, to this day, Pakistan is in a race against time to save Mohenjo-Daro as much as possible. Thirty percent of the city's bare ruins have collapsed since excavations began in the 1920s, and if the deteriorating condition of Mohenjo-Daro is not halted, this ancient city with its 5,000-year-old civilization will disappear once again, this time for good. It is urgent for the government and the nation, as well as the people of the world to well-protect this ancient civilization before all the mysteries are solved.

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