

## **Classifying artifacts based on features obtained from time period and location**

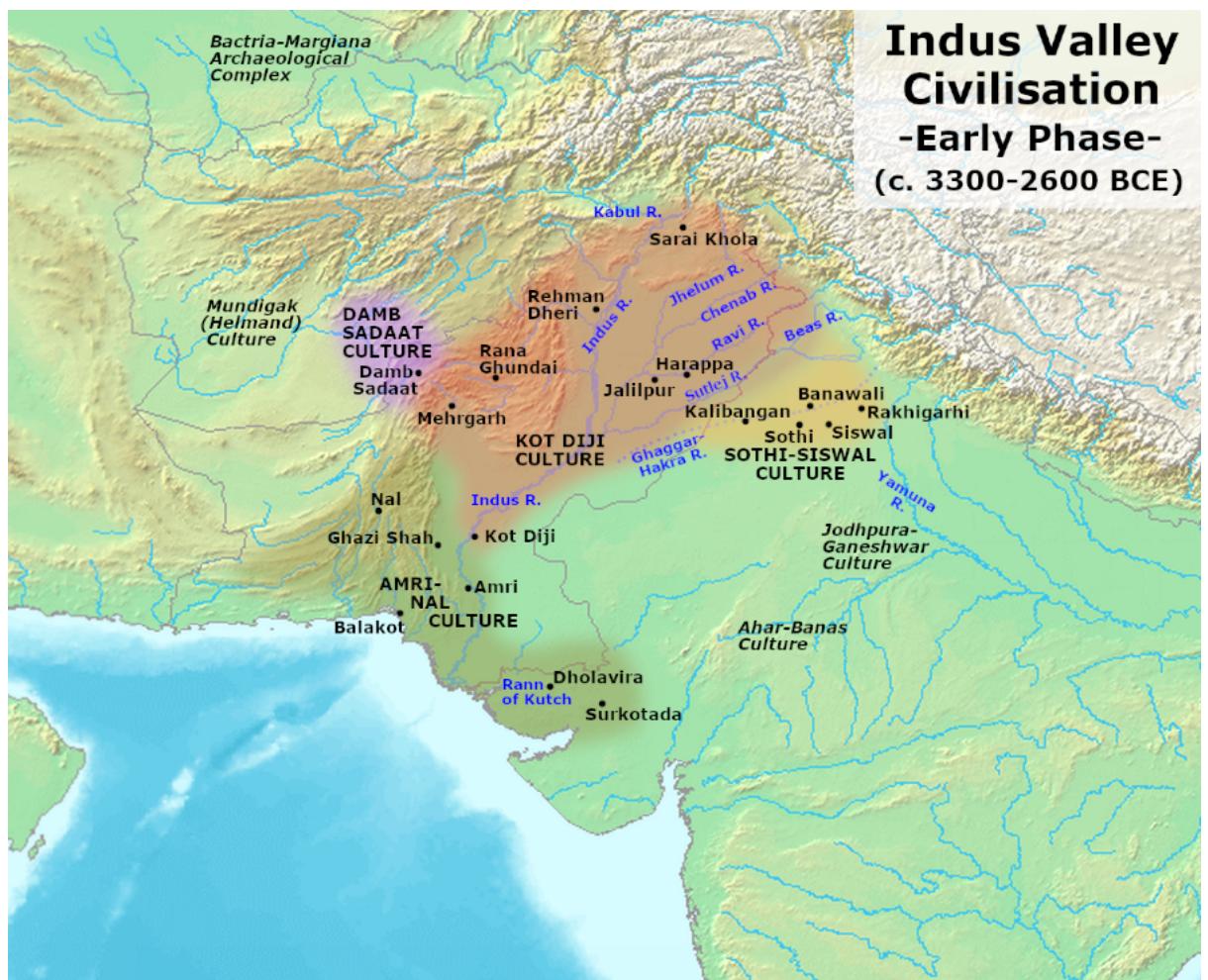
Indus valley civilization also called the Harappan civilization was the earliest known urban culture of the Indian subcontinent. It is one of the world's three earliest civilisations - the other two being those of Mesopotamia and Egypt.

This civilisation's cities were noted for well designed urban planning, baked brick houses, elaborate drainage systems, water supply systems, clusters of large non-residential buildings. A prominent feature in this civilisation was the evolution and presence of new techniques in handicraft (carnelian products, seal carving) and metallurgy (copper, bronze, lead, and tin).<sup>[1]</sup>

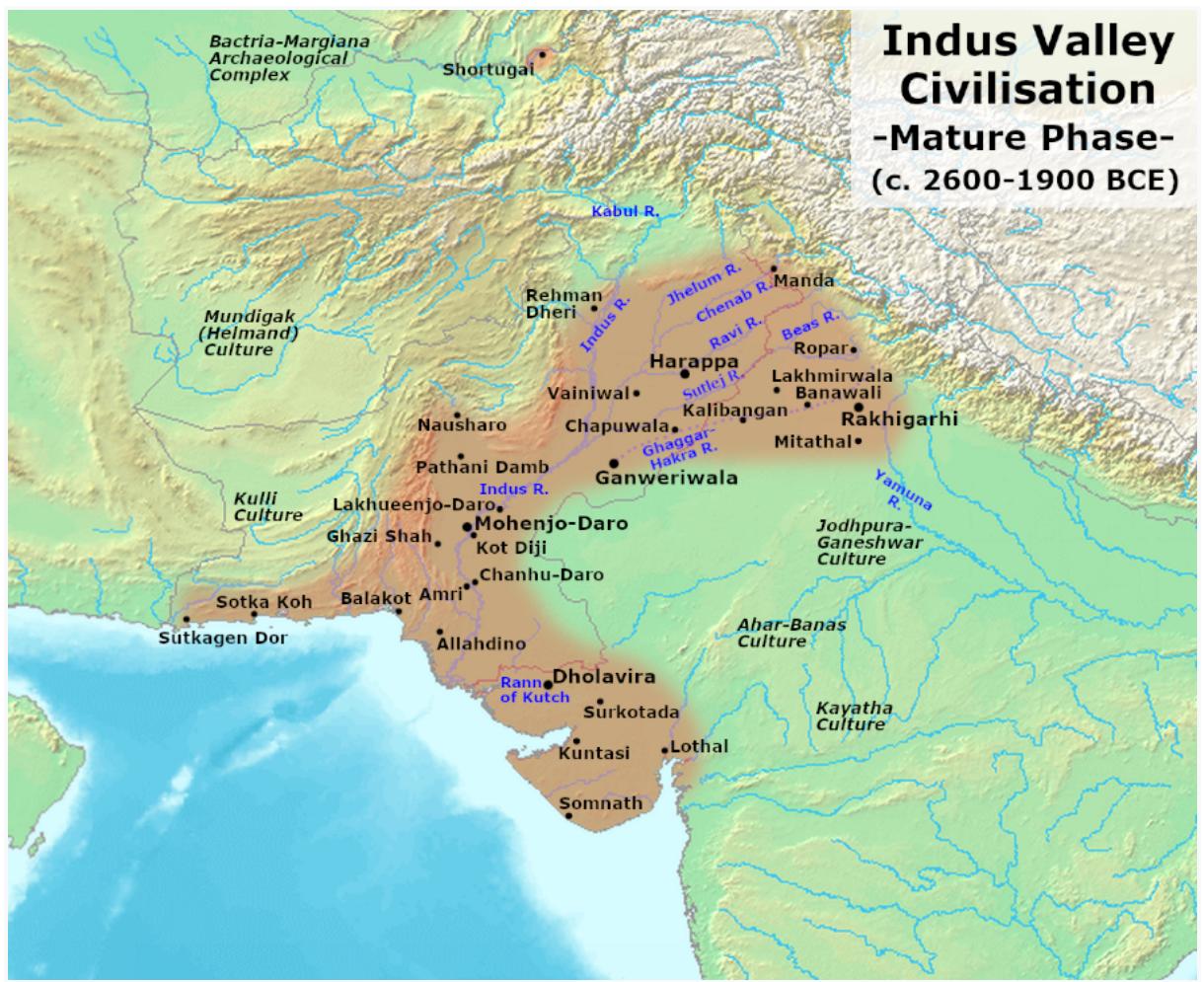
Our project is based on classifying the artifacts based on their features and understanding the relation between the clusters formed.

### **Time periods in Indus Valley Civilisation <sup>[1]</sup>:-**

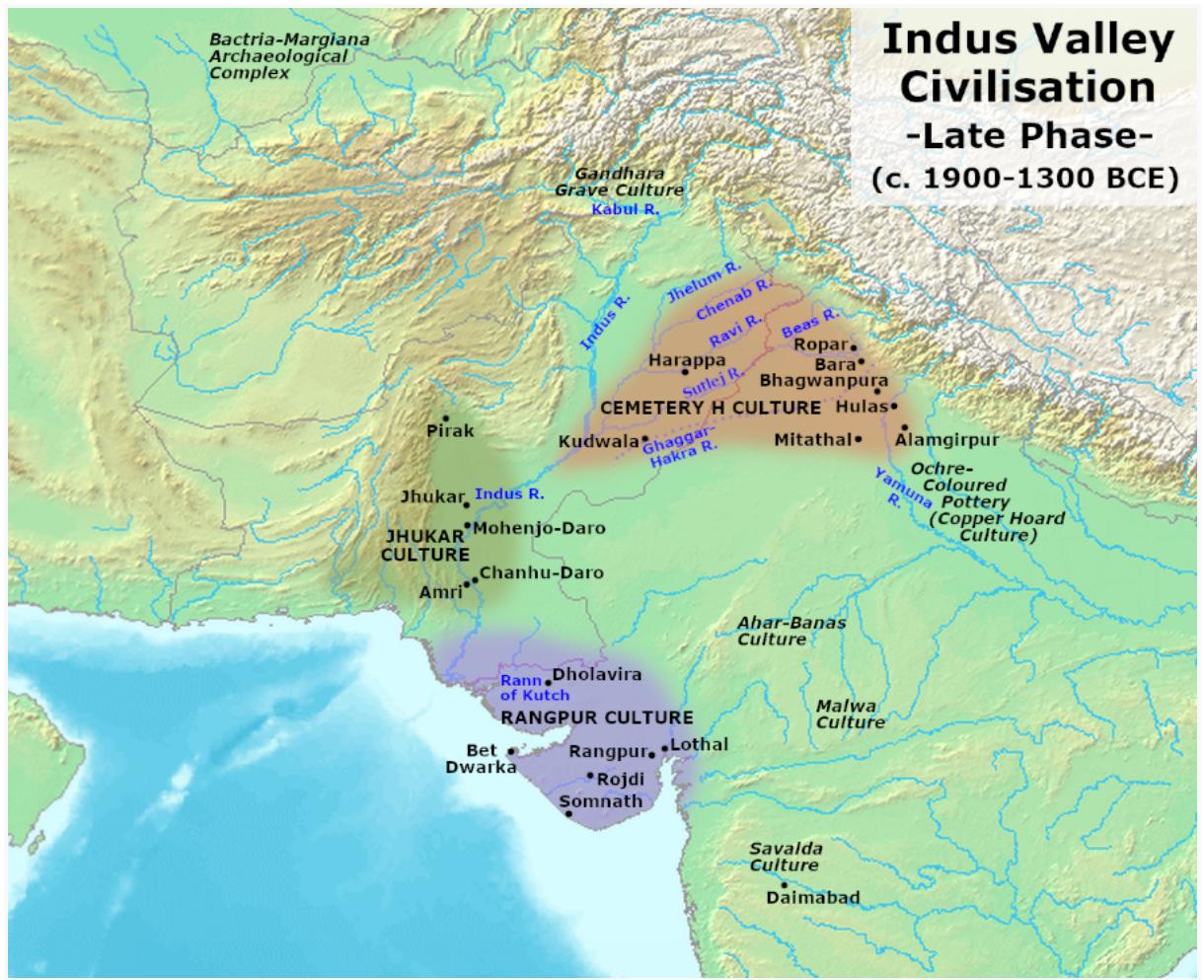
- **Pre-Harappan (7000 BCE - 2500 BCE)** : - This is the earliest known time period known of Indus Valley civilization and it was based in Mehrgarh. Mehrgarh is a neolithic mountain site in the Balochistan province of Pakistan. This is one of the earliest sites with evidence of farming in South Asia.
- **Early Harappan ( 3300 BCE - 2800 BCE )** : - The Early Harappan Ravi Phase, named after the nearby Ravi River mainly started when farmers from the mountains gradually moved between their mountain homes and the lowland river valleys. The final stages of the Early Harappan period are characterized by increasing integration of regional communities into a "relatively uniform" material culture in terms of pottery styles, ornaments, and stamp seals with Indus script, leading into the transition to the Mature Harappan phase.



- **Mature Harappan ( 2600 BCE – 1900 BCE ) :-** This is the period of Indus Valley civilization where the civilisation as a whole flourished. Concrete evidence of flourishing agriculture, trade and commerce, technology, arts, etc can be found mostly associated with this time period.



- **Late Harappan ( 1900 BCE – 1300 BCE ) :** - Harappan civilization started declining gradually and around 1700 BCE, most of its cities were abandoned. Many historians believe that this decline was due to the increase in interpersonal violence and presence of infectious diseases like leprosy and tuberculosis.



## Features of Different types of Artifacts :-

### Seals

In general seals in Harappan civilization were small in size with dimensions 2 to 4cm x 2 to 4cm and square in shape. The content of the seals can be mostly categorized into two types:-

- i) Animal figures like unicorns, Indian humped bulls, elephants, bison, rhinoceros, tigers, etc.
- ii) Mythological and religious significance like deities.

Most of the seals were made of steatite(burnt steatite,baked steatite). But several other seals have been found in different cities of Harappan Civilization with different features.

**Dominant common features [2]** :- Square shaped (2-4cm X 2-4cm), animal figures or religious objects engraved, steatite material used.



Square seal depicting a nude male deity with three faces, seated in yogic position on a throne, wearing bangles on both arms and an elaborate headdress.  
Material: tan steatite  
Dimensions: 2.65 x 2.7 cm, 0.83 to 0.86 thickness  
Mohenjo-daro HR 743



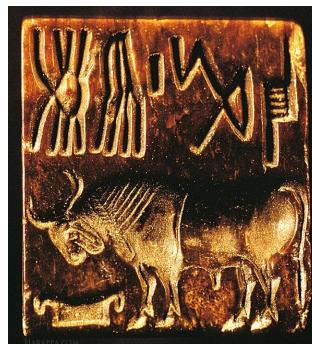
Intaglio seal (H97-3433/7617-01) with script and unicorn motif found in Trench 41NE in 1997.  
This seal dates to approximately 2200 BCE, at the transition between Harappa Periods 3B and 3C.



Square seal with multiple headed animals depicting three important totemic animals: the bull, the unicorn, and the antelope.  
Material: gray brown steatite  
Dimensions: 2.4 x 2.4 cm, 0.53 cm thickness  
Mohenjo-daro, DK 7734



Content: Unicorn with few symbols engraved above  
Material: fired steatite  
Dimensions: 2.9 x 2.9 cm  
Mohenjo-daro



Flat square double sided seal having on one side, four script symbols inscribed in reverse above a bison and swastika motif counter clockwise carved on the reverse.  
Material: gray brown unfired steatite  
Dimensions: 2.04 x 2.04 cm, 0.74 cm thickness  
Mohenjo-daro, HR 4503



Seal with Two-Horned Zebu Bull and Inscription (2000 BCE) is perhaps the most impressive motif found on the Indus seals.

Material : - steatite

Dimensions : - 3.2 x 3.2 cm

Mohenjo-daro, Harappa and Chandu-darho

### Distinguishing features<sup>[3]</sup> :-

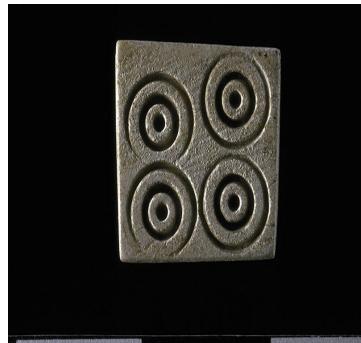


A faience button seal with geometric motif (H2000-4491/9999-34) was found on the surface of Mound AB at Harappa by one of the workmen.

Dimensions :- Square (2 to 4 cm size)

Harappa

Material used :- Faience



Fired steatite button seal with four concentric circle designs from the Trench 54 area (H2000-4432/2174-3).

Dimensions :- Square (2 to 4cm size)

Harappa

Material Used :- Fired Steatite



These seals with wavy motifs have mainly been associated with trade or elite economic/religious activities.

Material used : - Mostly stone but in some cases also copper and bronze

Shape :- Circular, oval or square shaped

Mundigak

Periods :- Early and Mature Harappan



Button seals which are often called "compartmented" seals, with the backs being either open or closed.  
Shape :- Diamond shaped with sharp edges  
Mundigak  
Material used :- Bronze, stone or steatite



This fired steatite button seal from the Kot Dijian Phase (2800-2600 BCE) shows a unique pattern that may be an early form of the Harappan script sign.  
Size and shape :- Square shaped (side 2 to 4 cm) with degraded and curved edges.  
Material used :- Fired steatite



This type of seal is only found in the last part of the Harappan Phase, Period 3C.  
Engraving : - No animal motif, only symbols  
Shape :- Long rectangular  
Period :- Late Harappan period



This silver seal with a unicorn motif is one of two found at Mohenjo-daro.  
Material used :- silver  
Shape:- Square with circular edges  
Mohenjo-daro



Long rectangular seals and a terra cotta sealing (bottom) with Indus script. The top seal has seven signs of Indus script. The central sign may represent a house or temple and is a symbol that is often repeated on seals with horned deities seated in yogic position.

Material: fired white glazed steatite

Dimensions: 3.74 cm length, 1.47 cm wide

Mohenjo-daro, DK 5567



Unique Unicorn Seal as part of some sort of container found at Gola Dhoro.

Material used :- steatite

Shape :- Square shaped with hollow space in between.

Gola Dhoro



Large square unicorn seal with a perforated boss on the back and a relatively long inscription of eight symbols runs along the top of the seal.

Material: white fired glazed steatite

Dimensions: 5.08 x 5.08 cm

Mohenjo-daro, HR 743

## Coins

The Indus valley civilization upto a considerable period of time followed the barter system for markets. With the evolution of the trade system, the usage of metals like gold,silver,bronze,etc as a currency was introduced. [4] With time these pieces of metals were changed to metal coins. There are very few differences between the features of seals and coins because many seals also functioned as coins and seals were also termed ‘semi-coins’. Now a distinguishing feature between seals and coins are that coins were made of different kinds of metals like gold,bronze,copper,silver,etc. Coins are mostly circular or elliptical in shape but some exceptions of square and rectangular shaped coins also exist.



Most coins were circular or elliptical in shape

More materials on coins if found will be inserted later.

## References :-

1. [https://en.wikipedia.org/wiki/Indus\\_Valley\\_Civilisation](https://en.wikipedia.org/wiki/Indus_Valley_Civilisation)
2. <https://www.britannica.com/topic/Indus-civilization>
3. <https://www.harappa.com/category/slides-subject/seals>
4. <https://www.boloji.com/articles/50203/are-indus-valley-seals-pre-roto-coins>