## Harappan society



aThe Indus-Sarasvati (or Hakra) civilisation was located around the Indus and GhaggarHakra rivers; divided chronologically into four eras it stretches in time from the Neolithic period to the Iron Age. When examining the technological and cultural advances of this society, the period in which the Early Harappan phase (part of the Regionalisation era) develops into the Mature Harappan phase (Integration era), that is from 2800-2200BCE is of particular interest.

In studying the developments of this society it is essential to take into account its various urban centres in order to compare and contrast, centres examined include Harappa, Mohenjo-daro (both in modern day Pakistan), Kalibangan and Lothal (in modern India).

Various qualities that indicate a high level of technological and cultural advancement include the ample archaeological evidence of municipal town planning, in particular regards to the well developed hygiene facilities, an analysis of Mature Harappan subsistence methods (and how they developed from Early Harappan practices), evidence of developed trade routes over both land and sea, the detailed, highly crafted pottery and seals found at many of the sites and the mysterious undeciphered Harappan symbol script.

Nearly all of the Mature Harappan sites discovered (406 in Pakistan, 616 in India) have shown ample archaeological evidence of forethought in the planning and though the sites span an area of over 2. 5 million square miles, similarities in architectural devices appear. The location of many of the Harappan settlements is conditioned by river flooding patterns (to be returned to later in examination of subsistence practices), climate, the

accessibility of natural resources and by the external and internal trade routes that existed.

With populations ranging between 35-41, 000 peoplei he cities themselves had various layouts, most likely for utilitarian purposes, both Harappan and Mohenjo-daro have a citadel mound that is quite distinct from the lower city and the earlier site of Kotdiji also has the same essential layout at a less complex level. Kalibangan was a fully fortified settlement during the Early Harappan phase and evolved into a western citadel accompanied by a fortified checkered patterned city in the east. Built over the previously existing group of disorganised towns, Kalibangan is a typical in its Mature phase development.

The Mature Harappan redevelopment of many of the early centres was encouraged by the numerous fires that fig. 1 map of the Harappan cities broke out around the year 2500BCE, an example of such redevelopment can be seen at Kotdiji. Situated on the Gulf of Khambhat the town of Lothal was a prime example of Harappan town planning. After being destroyed by a flood in 2350BCEii the town was expanded in the style of the larger settlements with the added utilitarian purpose of consistent protection from floods.

Lothal was divided into a citadel and lower town and it is likely that the rulers and aristocracy would have lived inside the citadel (acropolis) which enjoyed paved bathing areas, drainage systems both under and above ground and a drinkable water well. The lower town was divided into two sections by an arterial street that ran down the centre from N-S (in keeping with Harappan

tradition) which was the focus of commercial activity, flanking this street were residential areas.

One of the standout features of Lothal is its dockyard, most likely the earliest in the world, which to this day is regarded by archaeologists as a feat of engineering; situated on the eastern side of the town it was placed away from the main current of the river with various inlet channels to avoid silting and its depth of 4. 6m allowed it to be accessed by ships in high tide. A 3. 5 metre high warehouse with over 64 rooms was built between the dock yard and the acropolis enabling dignitaries to oversee both dock and warehouse; a large ramp 220m long was built to facilitate movement of cargo to the warehouse.

Lothal shows archaeologists that a city's size was not necessarily proportional to its level of architectural planning as this relatively small polis show more evidence of careful layout than Kalibangan which is at least twice its size. The houses of Harappan society were of a uniform mould throughout, even the brick size was standardised 7x14x28cm for houses and 10x20x40cm of the city wallsiii which in cities such as Mohenjo-daro stood at over 5m high.. With this standardisation in mind the house in figure 2 can be used to build a very basic idea of the infrastructure of most Harappan households.

The walls of many houses were made from baked bricks, a typical medium of the time in many ancient civilisations and were approximately 1. 5m thick, laid in a british-bond style. The rooms were arranged around a central courtyard and the floors were made from hard packed earth. The ceiling

were around 3m high and often the house would have two (or rarely three) stories. One of the famed features of Harappan domiciles and cities was the highly advanced, the Harappan people had, as with many Hindu's today, a very serious view on bathing and nearly all homes had a private bathroom.

Often situated on a raised, or second floor, the water would be pulled up from the well and carried to the bath, it would then drain down through the thick outer walls onto street side sewage and drainage channels which were covered and had manholes for cleaning purposes. The brick or pottery drains were fired in order to prevent wall erosion due to moisture. From these street drains the waste would be carried outside the city walls and empty into the surrounding fields. Fig 2. Harappan house (in Mohenjo-daro)

Transition from earlier structures can be seen when examining the the earlier mud housing at Sari

Khola (Punjab, India)iv yet as in many other aspects of Harappan culture the development from the Early to Mature phase did not hark so much a change in the building technologies used but more so in how they were put to use and the complex planning of their municipalities is a testament to Harappan ingenuity and inventiveness. Since the initial excavations at Harappa and Mohenjo-daro archaeologists and anthropologists have given much attention to the Harappan subsistence system.

It has been suggested that the Harappans, especially in the early stages of the Mature phase were pastorally nomadicy yet the evidence provided is refutable and this is not certain. Due to the widespread location of this civilisation there was a wide diversity of subsistence bases; factors of ecological variety e. g. alluvial plains, mountains, plateaux and sea coast, and hence, varied water sources e. g. wells (found in plenty at Mohenjodaro), rivers, cisterns and reservoirs (evidenced at Harappa) all affected the way in which the people farmed. i Consideration of irrigation is crucial in examining the subsistence methods of the Indus Valley people and techniques vary from place to place. Archeological studiesvii have shown that in some areas wells using mechanical lifting devices were implemented, especially in winter times during which important staples such as wheat and barley were grown and at sites near Kotdiji there are indications that the people controlled the natural flooding of the river to irrigate their crops.

Another anthropological way to investigate ancient subsistence methods in areas like the Indus Valley is to observe the modern cropping practices in order to divulge their related protohistoric patterns; the Indus flood waters provide plentiful amounts of silt and nutrients to the surrounding land meaning that in these areas it was likely that there was no need for deep ploughing of fertilisation, however embankments of mud and stone would have been used occasionally to divert the river.

The Harappans would have grown staple crops such as wheat, barley, rice, cotton along with the farming of cattle, buffalo, sheep, goats, chickens and pigs with animals such as camels, horses, elephants and asses used for transport. In 1987 the Gujarat State Department of Archeology excavated a site at Kutch where they found a 3m layer deposit of animal remains, of the 8, 267 fragments of bone identified 85% belonged to domesticated animals showing that the consumption of meat was an important part of the diet of the time.

A portion of every farmer's crop was paid to the public granaries, this is evidenced by the high loading platform from which the farmers would dump their grain at Mohenjo-daro. The Harappan subsistence system was in many ways similar to those of other civilisations at the time yet there is no doubt that with their ingenuity and technological capabilities, the Indus people were comfortable in their agricultural practice; provided with food enough for their own internal need and for their varied trade connections.

There is significant evidence that the Harappan people had trade connections with ancient world around them which helped to maintain and bring innovation to their civilisation. One of the main schools of thought regarding the original settlement of the Indus valley is that the people originally came from Sumer in southern Mesopotamia; this proposition is beginning to be phased out as it is more and more apparent that though there are many conceptual similarities between the two cultures such as the practice of irrigational agriculture or the use of fired mud brick, the actual nature of these concepts are completely different.

The Harappans were among the first civilisations to use wheeled transport and major advances and refinements from the Early phase including bullock carts and freight boats encouraged intercultural trade. Maritime trade played significant part in Harappan intercultural relations; from docks at sites like Lothal "high prowed, single masted boats, ideal for carrying goods" viii (cotton was the staple export of the Indus valley) would have sailed both north west up the coast into the Gulf of Oman and south into contact with the cultures of Southern India.

Though Mesopotamia may not have been the birthplace for the Indus (and therefore Harappan) civilisation later trade between the two has been hypothesised by many archeologistsix. x Harappan carnelian beads, terracotta statues, seals and dice found on Mesopotamian sites all indicate to this connection but there is still a lack of substantial evidence. xi Contact with Egypt has been proposedxii and a good proponent of this theory is the discovery of the Gilgamesh figure at both Mohenjo-daro and Abydoss in Egypt (see fig 3).

The Gilgamesh image is iconically Sumerian and this finding was therefore seized up by those that supported the idea that Sumerian migration founded both the Indus Valley and Egyptian civilisations but it is just as likely that both are the result of complex trade routes across Asia minor connecting these cultures after their respective establishments. While it should be noted that most propositions are merely suggestions it can be established that the Harappan culture did venture beyond its borders and trade, as well as conflict would have taken place when this occurred.

Fig. 3 Found at Mohendo-jaro (left) and at Abydoss (right) The art and craft of the Harappan people was generally for merely practical purposes and the culture had a strong tradition of skilled labour. Craftsmen that must have existed to create the archeological evidence found today include stone sculptors, potters (huge ceramic kilns found at both Mohenjo-daro and Harappa), bronze (toy animal figures found at Mohenjo-daro), copper and goldsmithsxiii.

Indus valley pottery of both the Mature Harappan phase and of earlier periods has provided archeologists with evidence of trade routes as well as giving them an idea of the pottery's and henceforth, the people's utilitarian purposes. The pots themselves would have been mostly wheel turned before being fired in large funnel shaped up-draft kilns, reflecting the ideal of efficient Fig. 4 Ancient Harappan trade routes. mass production; generally monochrome the vitreous glazing on pots found at the earliest levels of Mohenjo-daro are the earliest example of glazing in the worldxiv.

The pots were decorated with various patterns including simple horizontal lines, geometric patterning and occasionally more complex pictorial motifs. It is guessed that the large pots would have stored grain while the few smaller ones that were elaborately made would have belonged to the aristocracy for decorative use or have been used for ritual purposes. Another common piece of archeological evidence used when studying the Harappans is seals, often made of steatite which were decorated with varying devices.

There were two main types of seal, one square with a short inscription accompanied by a carved animal of figure, the other long and rectangular adorned only with writing. Both symbols and text are of immense interest to archaeologists. The images, usually of birds, snakes, fish, plants, trees or pipal leaves (the use of these last three predates the Mature Harappan era) give information regarding the Harappan's lifestyle and social order.

Fig 5 for instance is adorned with a zebu bull which, while commonly seen on vases and other decorations throughout the Indus region, is only found on seals at the largest cities of Mohenjo-daro and Harappa; symbolising

strength and virility Fig. 5 Bull seal. as the leader of the herd this bull seal is thought to have represented a powerful clan or high official. Seals have been found at over 60 sites throughout the valley but despite the number collected the hieroglyphs written on them have not yet been deciphered.

Though there a many mysteries left to solve regarding these ancient people analysis of their art and craft has helped all those interested to deduce information about the Harappan way of life. The Indus valley script is a subject of heated debate amongst experts and as yet remains undeciphered. Using inscriptions on seals as their key source archaeologists have identified over 600 signs, this number puts it somewhere between most logographic (usually more) and syllabic (less) writing systems.

What is known is that the script was read from right to left or occasionally boustrophedorically but the average length of inscriptions (5 signs) and the lack of any bilingual texts present complex obstacles in a linguist's attempts at decipherment. There are currently two theories which have garnered the most widespread support among linguists. The Indo-European hypothesis put forward first by Shikaripura Raganatha Raoxv compares the Indus valley script to the

Phoenician alphabet resulting in a sanskrit style reading with assigned sound values; this idea of an Indo-Aryan language base is the most widely accepted. The Dravidian hypothesis was first investigated by Yuri Knorozovxvi who thought that the symbols represented a logosyllabic script; Knorozov used computer analysis to determine the Indus Script was an agglutinative Dravidian language. The debate goes on still yet it is agreed

upon by all that the qualities of this complex script attest to cultural and technological prowess of the Harappans.

It is concluded from examination of their architectural planning (both municipally and domestically), their subsistence system and agricultural techniques, trade routes, their craftsmanship and their complex and undeciphered language at sites that the Indus Valley people of the mature Harappan period were a highly evolved and sophisticated people. Though the Post-Urban Harappan decline was not a "unique or mysterious phenomenon" xvii being merely a typical sociocultural collapse, the nature of the Harappan civilisation most certainly was. Bibliography: -U.

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