

Cattle and the Harappan Chiefdoms of the Indus Valley

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The Harappan or Indus Valley culture is one of the world's earliest civilizations. It was unknown until the early part of the 20th century, when the great settlements at Harappa and Mohenjo daro were excavated and their antiquity recognized.

In spite of decades of archaeological field work in both India and Pakistan, much is still unknown about the Harappan world. In part this is due to the paucity of written documents. In contrast to early Chinese, Egyptian, and Mesopotamian cultures which are relatively well known as a result of the decipherment of their scripts and the translation of substantial texts, the brief inscriptions left by the Harappans on seal-tablets remain a basic scholarly problem. Only recently have we begun to understand something of their contents.

A second and more basic problem lies in the way in which scholars have looked at the mute remains of Harappan culture—the assumptions that they have made in their interpretations of buildings, art, artifacts, and trash. The early excavators were trained in the study of the history of the ancient civilizations of the Near East, Greece, and Rome. When they sought to reconstruct the Harappan world they saw a rather poor but still representative example of aspects of more familiar civilizations. Thus they wrote of kings, urban capitals, slaves, citadels, and alien invasions in the Indus Valley. More recent studies have proven that these

classical models are inappropriate. The Harappan civilization is something unique unto itself. A part of this uniqueness is a result of the particular role given to animals and specifically to cattle.

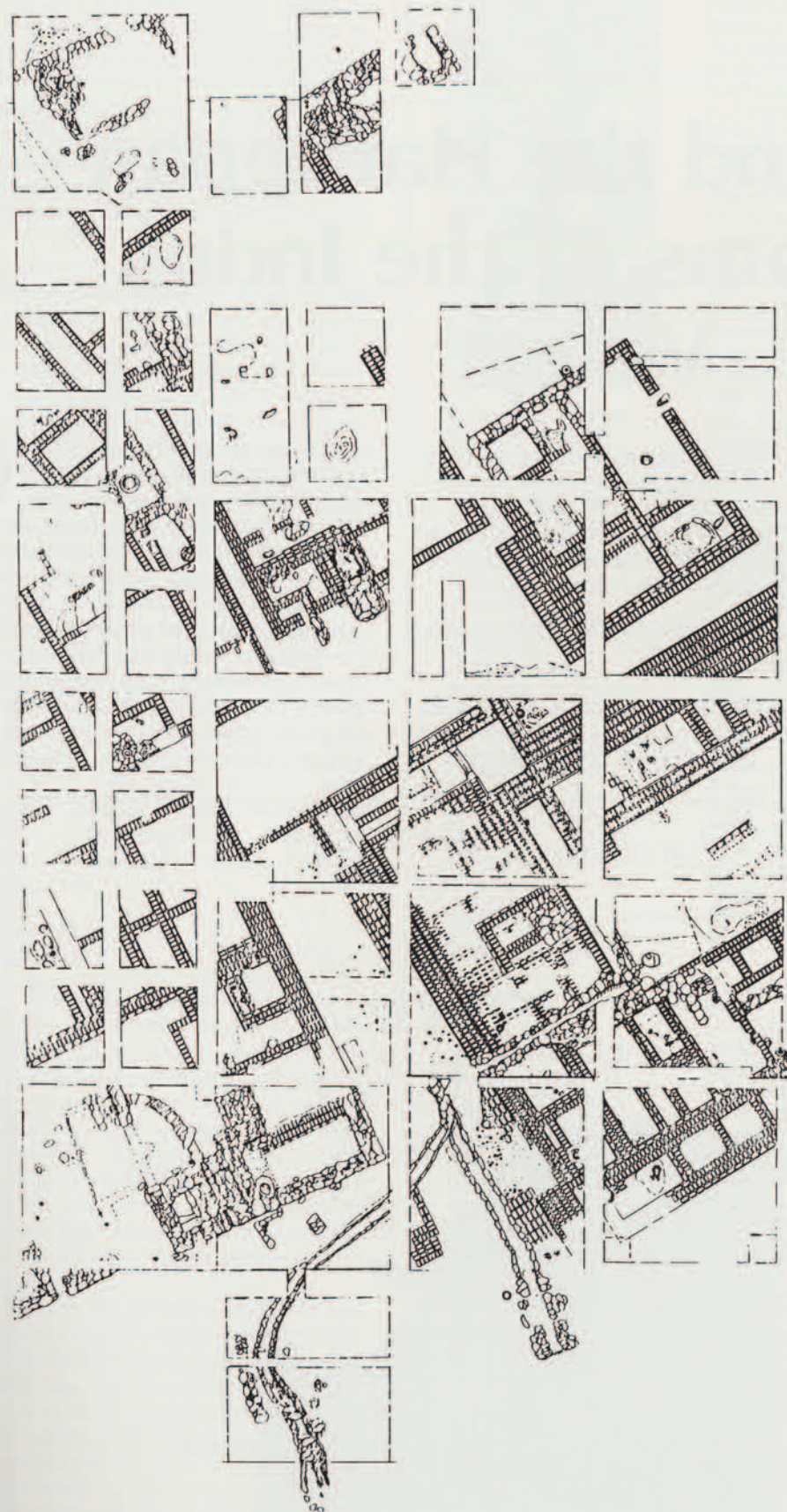
Excavations at a Harappan Village

The Harappan site of Allahdino is located some 20 miles east of Karachi, Pakistan, on a

broad coastal plain (Fig. 1). The region has abundant underground water, but only a limited amount of soil suitable for cultivation. Monsoon rains here are scattered rather than steady. Nevertheless, what rain does fall causes the growth of a considerable amount of grass, even on the pebble-covered hills that surround and intrude upon the plain. To this day, when grass is present the goats, camels, and cattle of both nomadic pastoralists and sedentary



1 Map of the Indus River system showing the location of Harappan settlements, ca. 2500-1900 B.C.



2

Plan of the settlement at Allahdino during the Mature Harappan period.

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farmers graze and grow fat on lands that are barren desert in other seasons or in drought years. Allahdino is one of several Harappan sites that are close to these pebbled stretches. All of these sites apparently resulted from short periods of human occupation.

The settlement at Allahdino consists of a small open court with a well, surrounded by buildings of a modest size. Some of these can be identified as houses, but the function of other buildings is still unknown (Fig. 2). During excavation, a large number of small clay figures of cattle were found, as were fragments of small clay carts (Fig. 3). Even more common were biconical clay pieces or tokens, with a total of 23,000 recovered. These three categories of artifacts posed a mystery.



3
Clay model of cattle pulling a wheeled cart. From Chanhudaro, ca. 2250 B.C. (Photograph courtesy of The University Museum)

As we worked at Allahdino it became clear that the importance of cattle suggested by the figurines was also reflected in the faunal evidence. Among the animal bones discarded by the ancient inhabitants, those identified as cattle were predominant.

Traditionally, archaeologists had regarded the Harappans as using cattle primarily as draft animals and as a source of food. (Other staple foods were produced by cultivation, and included wheat, barley, peas,



5a
Seal portraying a “cow-woman” attacking a horned or feathered tiger. Found in the excavations at Mohenjo daro carried out by Mackay in the 1930s. (Drawing by Jano Bell)



4
Clay tokens from the site of Harappa. The two on the right are the reverse of those on the left. They state quantities of two or three in a system of four. The inscriptions name the owner of the commodity involved. (Drawing by Jano Bell)



5b
Seal portraying a seated man with bull's horns; from Mohenjo daro, ca. 2500-1900 B.C. To either side of this figure are animals of the grasslands: a rhinoceros, buffalo, elephant, and tiger. (Drawing by Jano Bell)

and beans, as well as cotton.) It was also apparent that cattle were in some way important in Harappan ideology, for some of the seal-tablets recovered at sites such as Harappa and Mohenjo daro show cow-women and perhaps a bull-man (Figs. 4, 5).

The Harappan seal-tablets depict a number of animals, but eight are most common. Four of these are wild animals of the grasslands: rhinoceros, elephant, buffalo, and tiger. These are in a minority within the entire sample of seal-tablets. The other four animals are domesticates: goat, zebu (Fig. 6), short-horn bullock, and the so-called unicorn bull (Fig. 7a). The latter, actually a profile of an animal akin to the well-known bullocks from Gujarat (Fig. 7b), is depicted with great frequency, occurring as almost 90 percent of the corpus from any given site. At the back of each seal is a perforated knob or boss that would allow it to be suspended on a string and worn (Fig. 8). This suggests that the individual wearer or seal-bearer had some special relationship to the animal portrayed on the seal. The nature of that relationship, and the reason for the emphasis on cattle, are critical questions that archaeologists must answer.

Harappan Settlement and Economy

Archaeological surveys have revealed that the Harappans in their heyday had settlements stretching from Badakhshan in Afghanistan in the north to the delta of the Narmada River far to the south, and from the western Makran to the vicinity of Delhi in the east (Fig. 1). No other Bronze Age civilization had so wide a geographic spread.

Nearly one thousand sites have now been located. Most of these are small, a few acres at the most, and many are of little depth, as if the settlers came and went in a matter of a few decades. Indeed, recent work on the great urban site of Mohenjo daro indicates that it was



6a,b Domesticated cattle are commonly portrayed on Harappan seals. Among the species represented are (a) the zebu, and (b) what appears to be a composite of three animals: a short-horned bull, a "unicorn bull," and a second long-horned bull. (Photograph 6a courtesy of James Blair, National Geographic Society)

probably occupied for only around two hundred years. It appears that something led to the movement of these ancient people away from what seems to have been their homeland along the Indus river valley.

One explanation for the wide distribution of short-term settlements may lie in the Harappan cattle herds. Cattle require good grazing land year round. If green pastures are not available, herds must be supplied with fodder. As grazers, cattle are in competition with wild species, in this case buffalo, elephant, and rhinoceros. (Note that the only other wild animal represented on the Harappan seal-tablets, the tiger, finds a major source of food in the wild and domestic grazers.)

Regular sources of water and the availability of land that can be irrigated are problems for the agriculturalist, particularly where rains are as sparse and uncertain as they are in the plain around Karachi. Here, too, cattle provide a source of competition. As cultivation expands into areas of natural pasture, decisions have to be made. Any growth in the size of cattle herds clearly imperils the farmer's fields. Furthermore, in the season when grain is growing, the *rabi* or winter season in the Indo-Pakistan region, natural grazing land is restricted and the herds have to be maintained by the production of fodder. In summer, cooler highlands with more abundant grazing potential may draw the herds away from lowland fields, but even so they must be guided and protected.

These were among the problems that the Harappans with their mixed economy of farming and cattle herding had to face. But herds also provided a definite advantage. When crops were abundant, the meat and milk supplied by cattle would have provided a supplement to the diet. When yields were poor, the products of the herds provided a major part of the diet. The benefits of keeping cattle herds in the Indus river valley,



7a,b Seal portraying a "unicorn bull," and a photograph of bullocks from Gujarat. (Photograph 7a courtesy of James Blair, National Geographic Society)

an area in which there are significant variations in rainfall from year to year due to its position on the fringe of the monsoon shadow, are obvious.

The possession of cattle is as important to the herder as is the possession of fields for the cultivator. Just as the estate owner can look with pride on his lands, so the cattleman can boast of his great herds. The Harappans apparently held both values. One is reminded

of the soil and of the herd were essential to the well-being of all. This interdependence is apparent in those instances where we have good evidence of settlement patterns. Newly colonized areas usually had several contemporary but functionally different settlements. These included: a village and/or administrative center that was located in or near the cultivated zone; factory sites where local resources such as

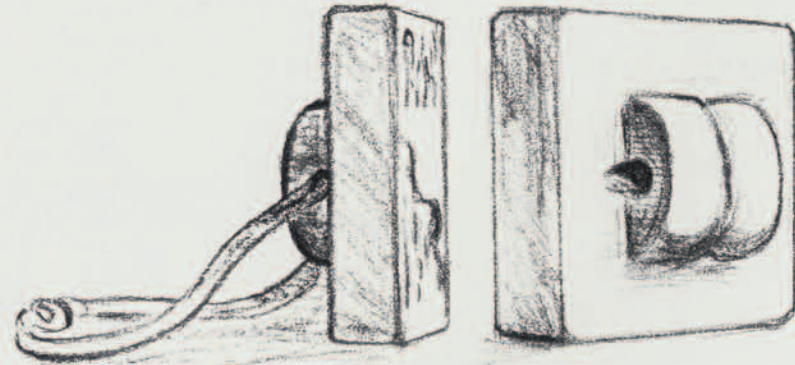
or Badakhshan, and apparently were created to obtain single resources like copper or lapis lazuli.

The Harappan Social and Political System

I have recently proposed an interpretation of some of the symbols and texts on Harappan seal-tablets. It seems that kinship ties bound the members of far distant communities to central kin groups in previous homelands. Each of these kin groups would have had a special relationship to an animal, one of the eight animals depicted on the seal-tablets. The occurrence of these same animals at all settlements provides evidence of larger, loosely tied groups that were recognized wherever Harappans lived.

Marriage would have been one occasion for which kinship ties were important. It may be that the Harappan wedding rites were much like those found in India today. Principal elements could have been a procession with cattle which were decorated with paint and cloth, a *pandal* or canopy under which the bride and groom sat in their finery, a marriage pole emblematic of union, and magical or amuletic designs painted on floor and walls (Fig. 9). At the climax of the ritual, a *tali* or marriage badge may have been hung around the neck of the bride as a token of her married state (Fig. 8). The Harappan *tali*, a seal-tablet, gave the husband's name, occupation and status, and the name of the kin group into which the bride was now admitted. The bulk of these *tali* were of the cattle group.

At Allahdino, the notion that cattle served as a measure of wealth and prestige that was at least equivalent in value to land and crops may provide us with a clue as to the function of the small clay figurines, carts, and biconical tokens. Some of these tokens have basket marks on them, as if they were thrown into a basket soon after modeling, while the clay was still partially wet. One easy method of counting commodities is to have a figurine represent a specific category of things, and to represent each individual within that category by a single geometric form or token. Thus, in the case of Allahdino, a figurine would repre-



8 Harappan stone seal, showing the perforated boss on the back which would permit it to be worn. (Drawing by Jano Bell)

of the boast of King Snefru of Old Kingdom Egypt that he had captured over two hundred thousand cattle, large and small; or of the wonderfully graphic cattle count model of the nobleman Meket-re of the Middle Kingdom, found by the Metropolitan Museum of Art in 1921. These examples remind us that even in civilizations where agriculture is secure and lands productive, cattle symbolize wealth.

But if herds of large size constitute wealth, this very size threatens sedentary life. Some regulatory arrangement has to be made, or the "farmer and the cowhand" are at odds with one another, and the cohesiveness of the community is imperiled. The Harappans' solution to this dilemma seems to have been quite simple: they adopted a pattern of migration, a movement away from areas where land limitation and the vagaries of the seasons made cohabitation impractical.

As we have reconstructed it, the Harappan sedentary economy was a symbiotic one, where the products

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metal, clay, shell, and stone could be exploited and manufactured into finished goods; and cattle camps of a temporary nature located where pasture was available in a given season. The whole was bound together by an administrative system that constructed central storage facilities, gathered commodities, and redistributed them. By utilizing the different resource zones in any one area, the Harappan settlement systems adapted beautifully to the world around them.

It is also true that in some areas there was only a single site, usually a walled village or town. These settlements tended to be in regions far from the Indus, such as the Makran

sent the category "cow"; as a herd was driven by, clay tokens would be tossed into a basket to provide a three-dimensional record of its size. The same could be done for carts filled with grain or cotton, or some other goods. With this kind of system, the wide-ranging settlers of the Harappan polity could keep track of their holdings season by season and could thereby measure wealth and subsistence goods accurately.

The Decline and Fall of Harappan Civilization

In the reconstruction proposed here, Harappan society faced a built-in problem, perhaps akin to the worship of money for money's sake that afflicts many modern societies. In order to increase or maintain his holdings and status, a Harappan herder would want to keep his herds at a maximum size. With resources stretched to their limit, failure of natural pasture or crops in the marginal regions that the Harappans often occupied would have upset the economic balance, making a move to a new area necessary. Thus, both the short-lived occupations and the great geographical spread of the Harappans would be explained.

My interpretation of the texts indicates that Harappan society consisted of groups bound together by ties of kinship and ideology. The paramount leader or leaders, the chiefs, would have been entitled to regular tribute, even from far-off settlements. Such chiefs probably resided in larger, more elaborate settlements such as Mohenjo daro or Harappa. Migration would have fragmented their power. The more distant the dependent settlement, the more difficult it was to maintain traditional controls. Eventually, the centrality of the chiefdoms was weakened and died, and the Harappan cultural style waned and was integrated into new cultural styles developing to the east and south in the Indian subcontinent. We have a distance to go in our investigations of this most ancient Indian culture, but increasingly the evidence emphasizes that cattle were at the heart of the prosperity of the Indus chiefdoms and paradoxically played a



9a,b The scene on a Harappan seal-tablet from Mohenjo daro shows two figures with horned headdresses who are interpreted as the bride and groom (9a). The branches and leaves surrounding the figure at top right are similar in appearance to the *pandal* or canopy, used for wedding ceremonies in Indian villages today. The animal behind the kneeling figure may represent the "sacrificial" goat. A procession of women marches below the bridal couple. In the artist's interpretation (9b), two geometric elements below the canopy have been rendered as ritual paraphernalia. (Drawing 9a by Jano Bell)

States, Chieftdoms, and Tribes

WILLIAM DAVENPORT

In social and cultural anthropology, the term "chieftainship" refers to a form of government in which there are fixed political offices with designated authority over defined territories and the people living within their boundaries. The political offices of a chieftainship have minimal advisory and administrative powers, but there are always defined rules of succession for the principal official, the "chief." Often a chieftainship is headed by a paramount chief, who is regarded as politically superior to other chiefs. Some of these chieftainships are pyramidal in structure: the paramount chief has direct authority over lesser chiefs, who in turn have authority over petty chiefs, and so on down a hierarchy of power and influence. Other "segmentary" chieftainships are composed of an association of several nearly autonomous constituent chieftainships, which may or may not be similar to each other in their internal

organization. In some cases, each segment of these associations is regarded as equal to the others, while in other instances the constituent chieftainships are ranked as to authority, so that one is superior to all the others. In most chieftainships, especially those with several tiers of authority, there is sufficient organizational authority to marshal large groups for a variety of undertakings, such as public construction and warfare.

Anthropologists often contrast chieftainships with two other forms of political organization: the state and the tribe. In general, chieftainships are less politically centralized, less hierarchical, and less extensive in area than small states, but more centralized and more extensive than tribes. Tribes have no political offices. Leadership rests with influential individuals, who have won their positions by achievement; there are no rules of succession for such influential personages. Small states, on the other hand, support complex administrative organizations. Usually, but not always, they have more coercive and efficient means of mobilizing labor and collecting taxes for the government than do

chieftainships. Most small states are governed by hereditary rulers — royal families and dynasties.

Numerous examples of all three types of organization existed in pre-modern times. Tribal organization was characteristic of the Hopi and Zuni in North America. Small states include those of the Zapotec and Mixtec people in Mesoamerica, the Zulus in South Africa, and most of the "kingdoms" mentioned in the Old Testament. Chieftainships were common in sub-Saharan Africa and in the Polynesian islands of the Pacific Ocean. Hawaii is particularly interesting because of the changes in political organization that can be documented. When first contacted by European explorers, it was a chieftainship. Influences from Europe and the United States transformed these islands into an independent "kingdom" (in our terms, a small state), under the leadership of the warrior king Kamehameha. The indigenous political system of Hawaii came to an end in 1900, when it was annexed by the United States as a Territory, and later became a "state" within our federal system (see "Hawaiian Feudalism," *Expedition* 6[2]:14-27, [1964]).

powerful role in bringing about the demise of this society.

Returning to a comparison of the early civilizations, the information presented here serves to emphasize how little the Harappans had in common with counterparts in Mesopotamia and Egypt. The latter cultures are characterized by the construction of large-scale public buildings and by institutions such as armies, warfare, and slavery—all attributes of early territorially based states. The lack of such evidence at Indus Valley sites provides a strong contrast. The Harappan kin-based chieftdoms may instead have their nearest parallels in the political systems of Hawaii, the Northwest Coast of America, early Southeast Asia or West Africa (see box). Such a comparison does not deny the importance of Harappan culture to the later civilizations of India. Indeed, the very character and uniqueness of the Harappans serve to establish their place at the foundation of the great edifice of Indian culture. 2

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