Forager-Traders in South and Southeast Asia

Long-Term Histories

Edited by

Kathleen D. Morrison
Department of Anthropology,
University of Chicago

and

Laura L. Junker
Department of Anthropology,
University of Illinois at Chicago

Harappans and hunters: economic interaction and specialization in prehistoric India

Gregory L. Possehl
University of Pennsylvania Museum
3260 South Street
Philadelphia, PA
USA 19104

CAMBRIDGE
UNIVERSITY PRESS

2002

4 Harappans and hunters: economic interaction and specialization in prehistoric India

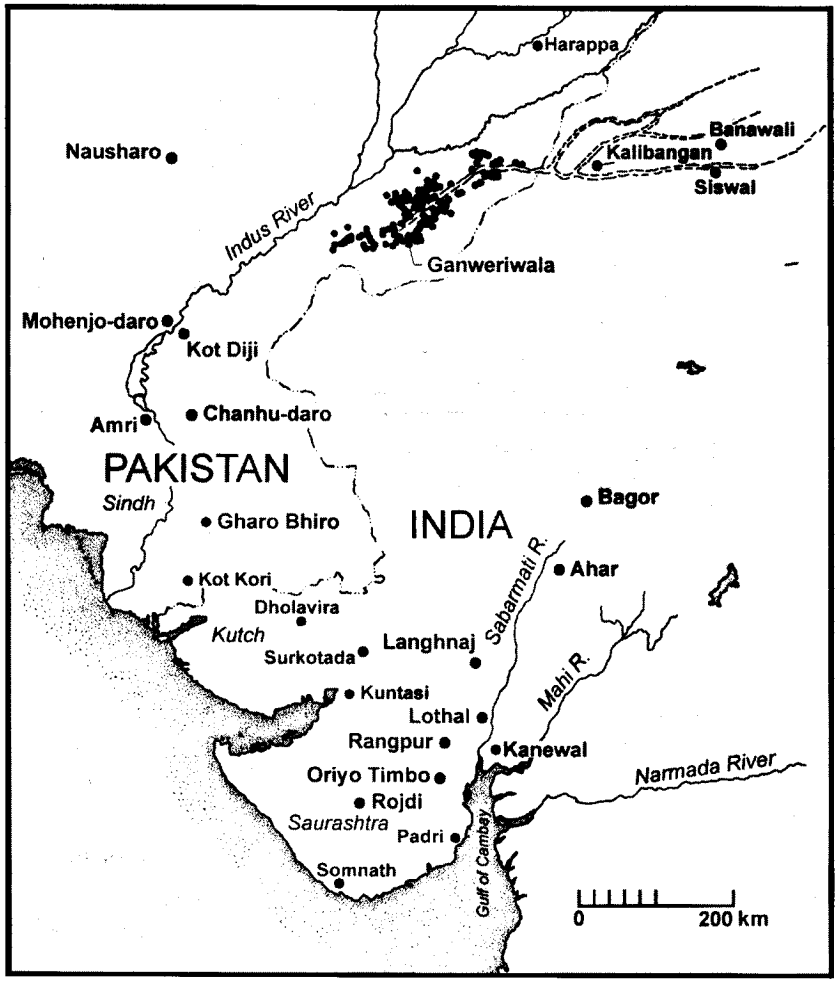
GREGORY L. POSSEHL

Introduction

Interaction between settled village farming communities and hunter-gatherers is a well-established sociocultural dynamic in the ethnography of India. An attempt to establish the historical depth of this form of human organization was first made in G. Possehl (1974), later published in Possehl (1980), and expanded upon in Possehl and Kennedy (1979). Evidence was presented there that supports the thought that the settled peoples of the Indus Civilization, especially those at the Harappan town of Lothal (Rao 1979, 1985), were interacting with the hunter-gatherers on the North Gujarat Plain at places like Langhnaj (Sankalia 1965) and other sites in Gujarat and southern Rajasthan (and see Lukacs, this volume).

The Indus Civilization is the earliest phase of urbanization in India and Pakistan. The "Mature" or Urban Phase of the civilization dates to *c.* 2500–1900 BC (Figure 4.1). This civilization is probably best known from the excavations at Mohenjo-daro and Harappa, located in the riverine environments of the Indus and its Punjabi tributaries. The Harappan is the largest of the archaic urban systems, covering just over 1 million square kilometers. There are 1,056 Mature Harappan sites that have been reported, of which 96 have been excavated (Possehl 1999: Appendix A). Harappan sites stretch from Sutkagen-dor on the Iran-Pakistan border, to Manda in Jammu and Kashmir and all through the state of Gujarat.

The Urban Phase of the Harappan cultural tradition came to an end at about 1900 BC, with the abandonment of Mohenjo-daro and many other sites in Sindh. Harappa was much reduced in size as well. The art of writing came to an end, but was preserved as individual graffiti inscribed on pots. The well-known inscribed square Indus stamp seal was no longer made, nor were the rather precisely crafted Indus weights. No one knows why these changes took place, but it is reasonably clear that they were most forcefully seen within the urban environment, and that life in outlying, rural areas, especially outside of Sindh, was little affected (Possehl 1997a). The peoples of the Indus Civilization were farmers and herders, with a diverse subsistence regime. Wheat and barley cultivation seems to have been



4.1 Principal sites of the Indus Civilization

the norm in Baluchistan, Sindh, and the Punjab, where winter rains fall with reasonable regularity. In Gujarat, where there is little if any winter rain, a more diverse suite of crops were used, all of them being hearty and drought resistant. Cattle were the mainstay of the pastoral economy, complemented by goats and sheep, with some pigs. The domesticated chicken is an accomplishment of the Mature Harappan peoples.

They built a baked brick city, Mohenjo-daro, with brick-lined wells and an elaborate drainage system integrated into a grid town plan. While much baked brick was also used at Harappa, the other excavated city, we do not yet know whether the grid town plan was used there, as it also was at smaller regional centers like Kalibangan and Dholavira.

Table 4.1 Sources for Harappan raw materials

Copper	Baluchistan and Rajasthan, as well as other smaller sources; Oman copper may also have been used
Tin	Afghanistan and Gujarat
Gold	Indus River and Kashmir
Silver	Rajasthan
Carnelian	Gujarat
Lapis lazuli	Afghanistan and Baluchistan
Steatite	Many sources within the Indus domains
Turquoise	Iran and Central Asia
Shells	Arabian Sea coast
Timber	Himalayan mountains

Source: Possehl (1999: Appendix B)

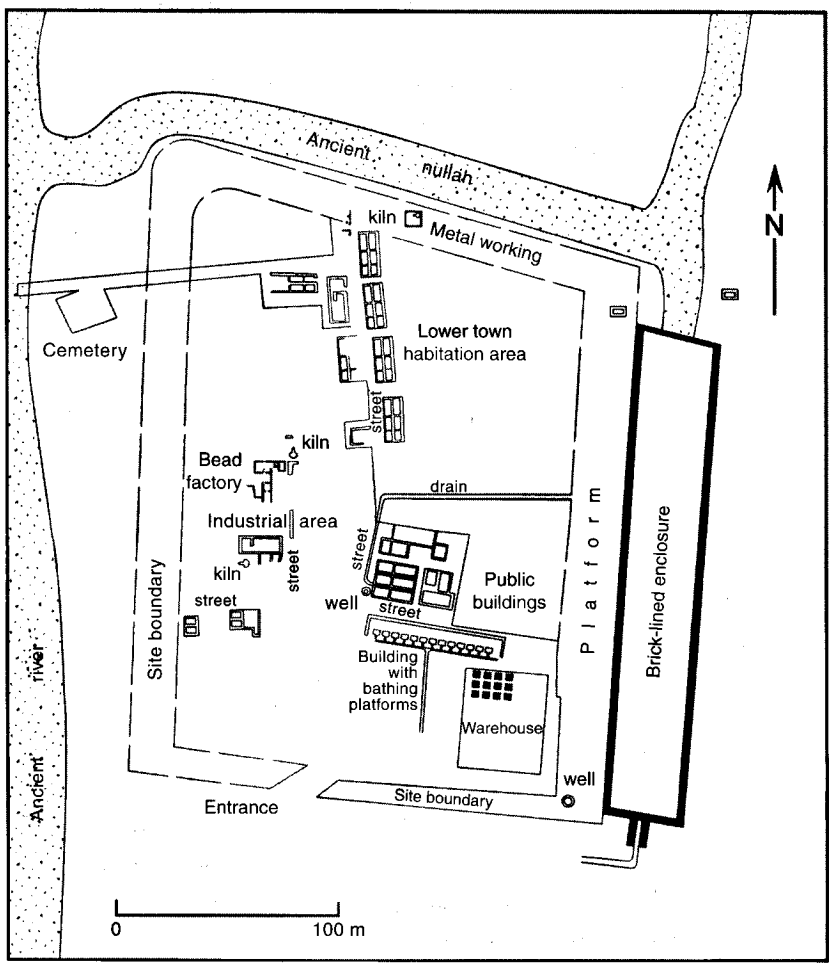
The Mature Harappans were accomplished artisans who controlled a vast array of technologies. Copper/bronze metallurgy, along with gold, silver, antimony, and lead, were known and widely practiced. They also controlled the manufacture of faience and stoneware. These ancient peoples may be best known for their bead manufacturing, especially the long-barrel carnelian variety.

These craft activities fueled a rich trade in raw materials. Table 4.1 is a brief synopsis of the principal materials that were used, and the sources from which they came.

Mature Harappan trade and maritime activities in the Arabian Gulf, as well as maritime contact with Mesopotamia, are well documented (Oppenheim 1954; Possehl 1996, 1997b; Ratnagar 1981). These regions were the marketplace for some Mature Harappan products, and may have supplied Mature Harappan craftsmen with materials such as shell, turquoise, and possibly copper. Many of the materials that the Indus craftsmen used were found in the borderlands of the civilization. This promoted contact between the Harappan peoples and those who surrounded them, which is the central theme of this chapter.

Lothal

Lothal (Figure 4.2) is a small, but internally differentiated settlement on the southeastern frontier of the Indus Civilization as a whole (Figure 4.1). Measured from plan, the size of Lothal comes to something like 4.7 hectares, but this includes a thick feature surrounding the settlement that



4.2 Plan of Lothal: Sindhi Harappan phase (after Rao 1979)

is said to represent a circumvallation. This feature is nowhere apparent at the site today, and the settled area could not have been much larger than 3 hectares, more than 2 hectares smaller than Rojdi (below). Lothal has been included as a Sindhi Harappan site of the Harappan Civilization. This is based on an assessment of the material remains and architecture. The most abundant materials are the ceramics and Lothal has the major vessel forms and motifs that are found in Sindh, especially the Indus goblet, beaker, "S"-shaped jar with a flange rim, feeding cups, dishes-on-stand, and the like. The excavations at Lothal also produced 220 seals and sealings (Joshi and Parpola 1987:238–90). These were designed and carved along the classic

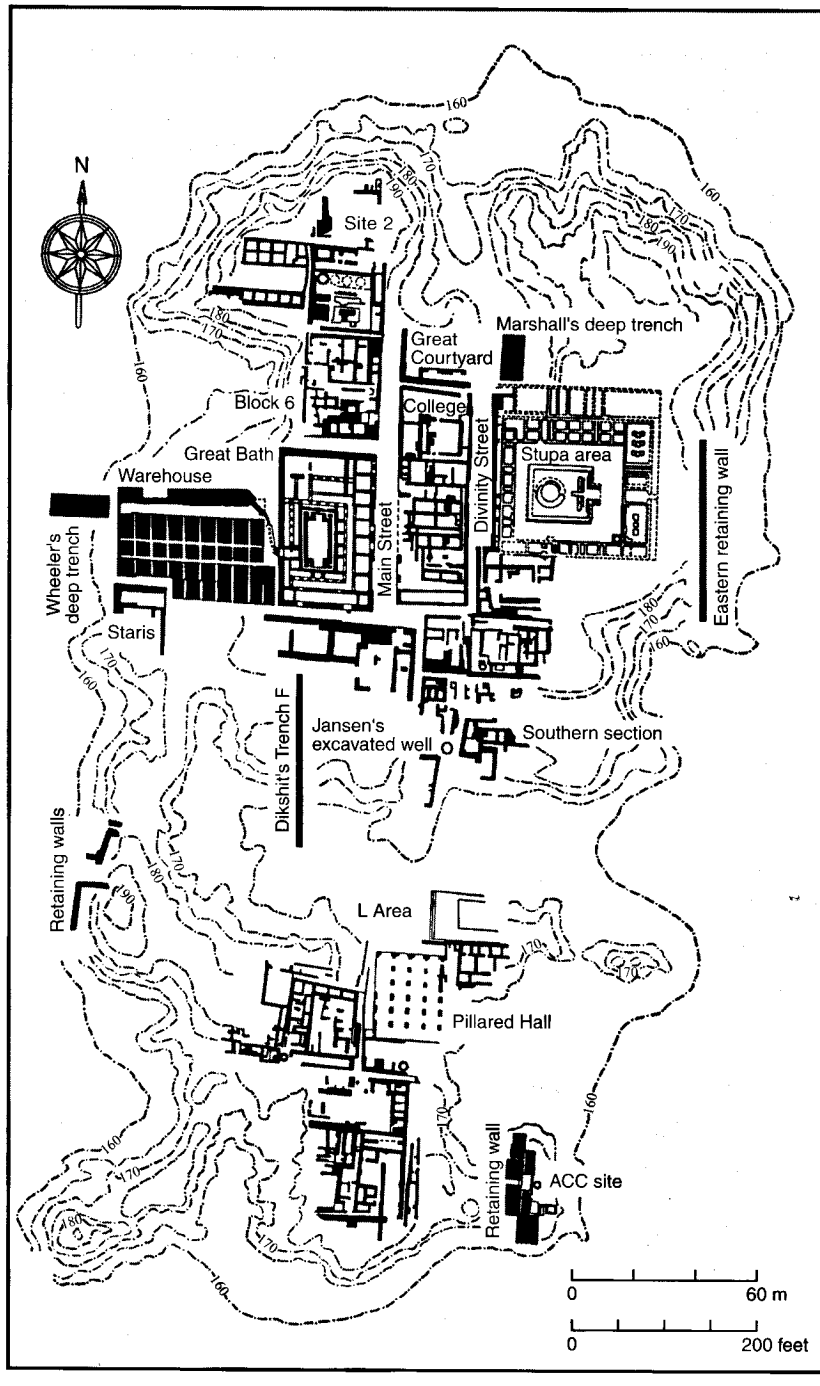
Harappan norm. Lothal participated in the Harappan system of weights and measures, and the architectural layout of the site, with baked brick drains and buildings oriented to the cardinal directions, was all done according to Harappan rules as we see them at Mohenjo-daro, Chanhu-daro and other Sindhi sites. There is a provincial quality to some of this, to be sure, but Lothal is still best seen as a part of the Harappans' operations emanating from Sindh. It is certainly not one of the Sorath Harappan sites, as exemplified at such places as Rojdi, Kuntasi or Padri (Figure 4.1).

In spite of its small size, Lothal was a carefully conceived settlement, with an area devoted to the crafts, another that was residential, and a third intra-mural district with two large buildings and a warehouse. The most controversial feature at the site is a large, brick-lined enclosure that has been called a dockyard by the excavator of the site, S.R. Rao.

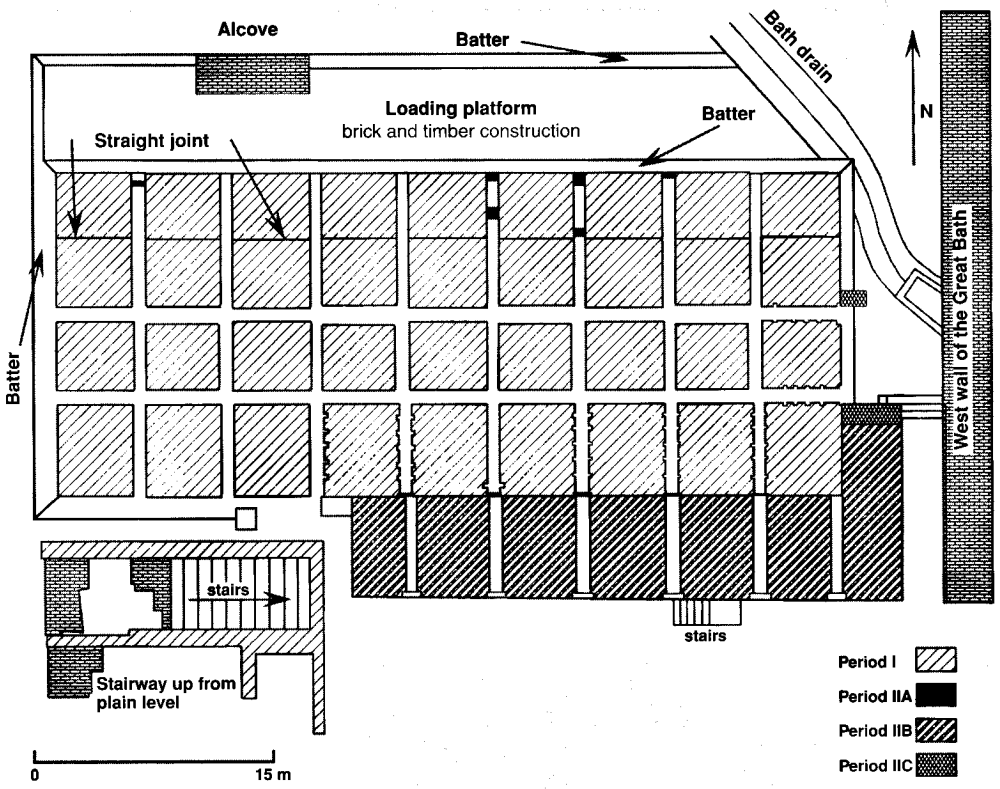
The so-called "dockyard" at Lothal is *c.* 215 meters long and 35 meters wide. It was fully lined with baked bricks and the southern end has a sluice gate, with provision for a wooden gate, apparently for filling and emptying the facility, although today the level of the local ground water determines the height of the water inside. S.R. Rao has claimed that it was used as a harbor for ships engaged in maritime trade, especially with the Gulf and with Mesopotamia (1979:123–35). The details of construction and the arguments for and against this position are worth reiterating here.

K.T.M. Hedge has pointed out (1991, personal communication) that this facility resulted from the removal of earth that was used to create the elevated portion of Lothal, on which the warehouse and other large structures of this district were built. Walling in this open hole, the water level fluctuating in depth depending on the season, was simply a way to make a sloppy eye-sore a more palatable part of the Lothal civic environment. The walls would also have kept out animals, protecting the purity of the water. Thus, the facility can be seen as an example of a South Asian tank, something proposed by L. Leshnik and something with which I am in general agreement (Leshnik 1968; Possehl 1980:1971–2). There is another possibility as well.

The Lothal tank and the Great Bath at Mohenjo-daro (Figure 4.3) share some similarities, although size is not one of them. Both facilities are associated with the high mound of their settlement and are near a building with massive brick foundations. This is the so-called "granary" at Mohenjo-daro and the "warehouse" at Lothal (compare Figures 4.4 and 4.5). Lothal also has a series of bathing platforms just west of the "warehouse" not far away from the "tank." This led me to wonder whether the Lothal tank may



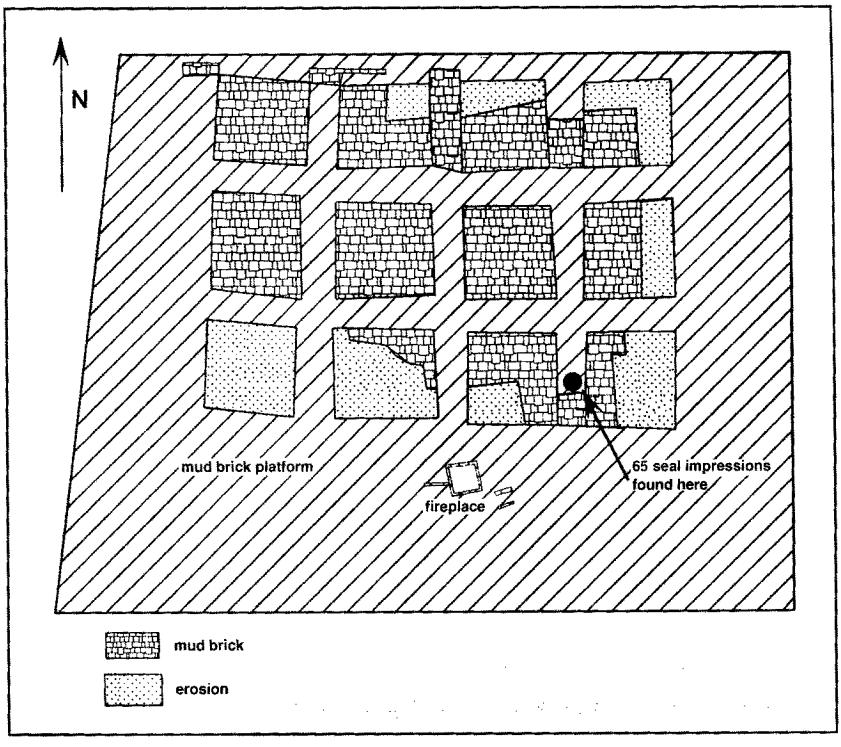
4.3 Plan of the mound of the Great Bath at Mohenjo-daro



4.4 Plan of the granary at Mohenjo-daro (after Wheeler 1966: Fig. 9)

have had some of the characteristics of the Great Bath at Mohenjo-daro, as a place for ritual ablutions. The facility may have had other uses as well, so this is not to propose that the Lothal tank was a replica of the Great Bath. On the other hand, there are some interesting comparisons, the details of divergence explained by the fact that Lothal was a long way from Mohenjo-daro, a kind of "country" (*deshi*) Harappan town, that may have sought to emulate the great city of ancient Sindh, but had neither the resources nor the will to invest in its own Great Bath. As "country folk" do around the world, its inhabitants let something else, in this case the civic tank, approximate that purpose.

In the end we do not really know how this bath or tank functioned in the third millennium, but one thing is certain: it does not make much sense to call it a dockyard. Whatever the use of this facility, it is clear that Lothal was an important "frontier" settlement during Mature Harappan times. It was in use from early in the Mature Harappan to the end of this



4.5 Plan of the warehouse at Lothal (after Rao 1979)

period, falling into disrepair during Lothal B times, the Post-urban Phase at the site. Lothal was a trading and manufacturing emporium and a wide range of activities took place within its bounds. There was a very fine bead-making facility, with a kiln for turning chalcedony into carnelian, making faience, glazing "steatite," and other operations. The excavation produced masses of waste products and beads broken in the process of manufacture. These were being made from a wide range of agate stones, as well as rock crystal, jasper, steatite, shell, ivory, and the like. There was a facility for smelting or general metallurgy at the settlement and others for working shell and steatite as well as dyeing cloth (S.R. Rao 1979:81). There is much more capacity here than could possibly have been consumed by the population of Lothal itself. Lothal is also located on the deep alluvium at the head of the Gulf of Cambay. None of these raw materials are found in its vicinity and we must imagine that they came there through trade or foraging parties who went out to fetch them.

A short description of the essentials of Lothal reads something like this: a small, well-organized trading and manufacturing Sindhi Harappan settlement on the southeastern frontier of the Indus Civilization. I have come to think of it as being in many ways a precursor to the Hudson's Bay trading posts of much later North America.

Lothal and the symbiosis with hunter-gatherers

We know that there was a population with a hunting and gathering subsistence system in Gujarat during the third millennium BC. These peoples are not as well known as they should be, but there are many sites with their microlithic tools. These are rich in tool types such as crescents, lunates, triangles, trapezoids, and the like, these names all taken from their shapes. These tools are generally very small, the largest dimension being less than a centimeter. The collections of microliths from Gujarat and Rajasthan have tools that were very finely crafted and have been made on a wide range of agate stones found in the region. They have a gem-like, multicolored, translucent quality to them that can have great beauty as well as being quite functional. Being so small, these tools were not used alone, or even held in the hand as an implement. Instead, they were mounted in various ways in hafts and shafts of wood, bone antler, and other materials and archaeologists think of them as elements in compound tools.

An interdigitation of habitation of hunter-gatherers and Harappans at a single site is known from the dune site of Kanewal located in Kheda District, at the head of the Gulf of Cambay (Mehta et al. 1980). Kanewal has an occupation level with a transitory settlement of hunting-gathering people, following one of the phases of the Gujarati Post-urban Harappan within which Lustrous Red Ware ceramics were used. The transitory settlement has a proper microlithic tool kit and no architecture. This is important, relative stratigraphic evidence placing hunting and gathering peoples in Gujarat within the same general time period.

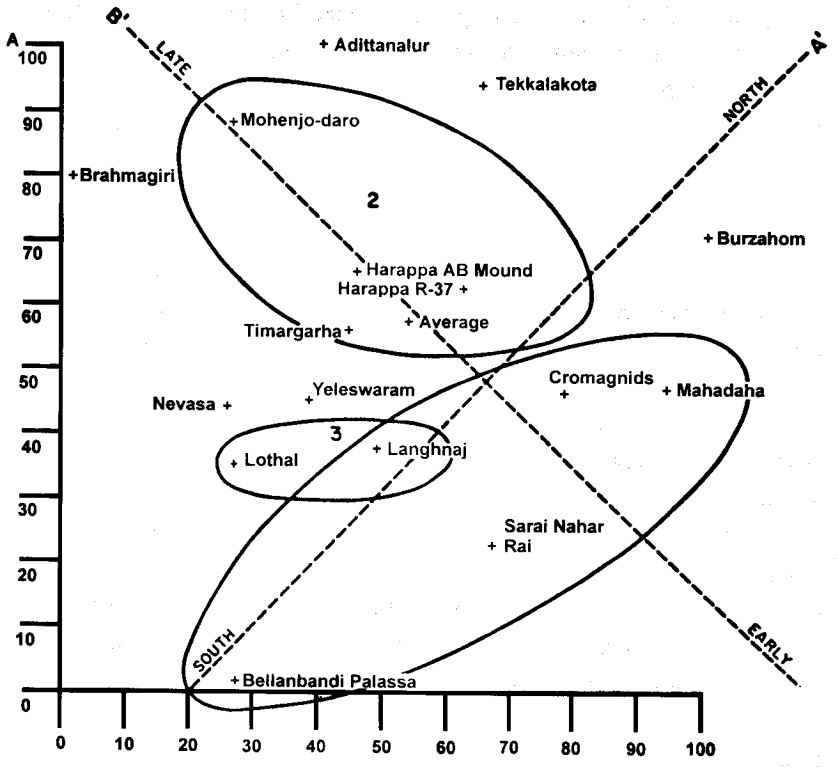
An occupational stratum with microlithic tools and very few ceramics was also found below the Lustrous Red Ware occupation at Oriyo Timbo in northern Bhavnagar District of Saurashtra. Lustrous Red Ware is an important ceramic of the Gujarati Post-urban Phase. Suffice it to say here that we have evidence for the use of the same settlement site by two peoples with a very different type of subsistence regime. Oriyo Timbo also produced some radiocarbon dates for the microlithic occupation (Rissman and Chitalwala 1990) which indicate that this can be dated to the entire

third millennium, possibly extending as far back in time as *c.* 3700 BC. This would have placed these hunting and gathering peoples in the region at the same time that Lothal was occupied.

The most important microlithic site to have been excavated in Gujarat is Langhnaj, situated in dunes and alluvial hillocks about 160 kilometers north of Lothal (Clutton-Brock 1965; Ehrhardt and Kennedy 1965; Sankalia 1965). Langhnaj is a site with an abundant microlithic industry found in three phases (Sankalia 1965). Pieces of pottery came from all three levels of the site, along with stone tools. The ceramics were so poorly fired that they come in very small sherds, shapes being apparent only in the latest Phase III. However, those of Phase II are definitely a coarse Black and Red Ware, with some typological similarity to the Black and Red Wares of Lothal, and it is perfectly possible that the inhabitants of Langhnaj learned the potter's art from the Harappans, most likely the Early Harappan pioneers who preceded the people of Lothal. Pottery and stone tools continue throughout Phase II. In addition, two groundstone artifacts were discovered: a point butt axe and one of the enigmatic ringstones or mace heads. A copper knife, 98.12 percent pure, and steatite disk beads were found in Phase II as well. These are all pieces of "advanced technology" in so far as the hunter-gatherers were concerned, somewhat out of place at Langhnaj, especially the copper knife. Period III produced a very fine iron arrowhead, with good Early Historic (*c.* 300 AD) typological parallels. There is one radiocarbon determination for Phase II at Langhnaj (TF-744) which calibrates to 2440–2160 BC, demonstrating that Langhnaj was probably contemporary with the Mature Harappan occupation of Lothal. This date, along with the other radiocarbon dates and the stratigraphic evidence from Kanewal, pretty much clinches the case that there were hunters and gatherers in Gujarat at the time of the Sindhi Harappan occupation of Lothal and the other sites in Kutch.

These chronological considerations are important because they at least admit the possibility that the copper knife, steatite disk beads, groundstone tool making technology, possibly even the Black and Red Ware pottery, came to Langhnaj, and doubtless other sites in north Gujarat as well, as items of barter with the Mature Harappans. Lothal emerges as a particularly important place because of its trading post character. It should also be reiterated for emphasis that Lothal was not a fortified site and this can be taken as a good indication that it enjoyed peaceful relations with its neighbors.

There are two more pieces of evidence for interaction between the Harappans of Gujarat and the hunting and gathering population of the



4.6 Biological characteristics of some South Asian skeletal populations (after Kennedy et al. 1984)

region. They come from physical anthropology and the analysis of the burials from Lothal and Langhnaj. Kenneth A.R. Kennedy and John Lukacs have examined these remains, as well as those from other sites in this region (see Lukacs, this volume). In fact, Kennedy has the best overview of any physical anthropologist on the Harappan people and their neighbors. He and his colleagues (Kennedy et al. 1984) have noted that the individuals interred in the cemetery at Lothal fall within the range of variability for the Mature Harappan population as a whole, but are statistically somewhat to one side of the norm. Some of the metrical variables that seem to be "pushing" these individuals off the Harappan norm are features of facial robusticity (prognathasism, tooth size, skull thickness, and the like) that are physical characteristics of the hunter-gatherers at Langhnaj and other sites of this type in the region. The metrical relationship between the Lothal and Langhnaj populations, as well as others in northwestern South Asia, is shown in Figure 4.6. Kennedy et al. propose, therefore, that we therefore have good reason to believe that more than economic intercourse

took place between the Harappans in Gujarat and their hunter-gatherer neighbors (Kennedy et al. 1984:116).

Lukacs and his colleague J.N. Pal (1993) have noted that the human specimens from Langhnaj have a very high rate of dental caries. Other hunter-gatherer groups from the subcontinent, and other parts of the world as well, are characterized by low incidence of this malaffliction, but it is generally high among food-producing peoples, especially those who consume large amounts of processed carbohydrates. The residue from these foods tends to stick on the teeth where the enzyme that causes tooth decay can do its work. The people of Langhnaj were not food producers. There were no domesticated animals found there, nor were there harvesting tools or groundstone food-processing tools. Thus, Lukacs and Pal believe that they may have been getting a significant portion of their food from farmers in their region, through exchange (and see Lukacs, this volume). Lothal would be one of the prime candidates for participation in such an arrangement.

This evidence for trade and/or exchange and gene flow between the Harappans and hunter-gatherers in Gujarat supports the notion that the hunter-gatherers were people who procured raw materials for the factories and traders who lived at Lothal, and possibly other Sindhi Harappa sites in the region. This was probably only one way that the Harappans obtained such materials, but it would have been important for them since the hunter-gatherers would have been intimately acquainted with their own terrain and therefore could find the products in which the Harappans had shown an interest. These would have been materials like those found at Lothal: agate, carnelian, rock crystal, steatite, shell, ivory, as well as wood, such as teak from the Western Ghats. Tin should also be mentioned because alluvial tin has been reported from north Gujarat, and this would have come as black specks or lumps from the seasonal riverbeds there (Sharma and Ram 1964:215). It does not seem likely that the hunter-gatherers of Gujarat played a role in the acquisition of copper, unless the Harappan smiths trained them to find the ores, mine, and concentrate them. We do not know the answer to this question, but we should not rule out the possibility of quasi-formal training being needed in order for the Harappans to get what they wanted.

This symbiosis between hunter-gatherers and settled folk in the subcontinent is a characteristic of life there that persists today. Since this lifeway has disappeared in Pakistan, we can focus on India, where a few hunting and gathering groups do survive today, but were much more numerous in the nineteenth century. We learn from studies of these people that they

were hunters and gatherers in the sense that they did not keep domesticated animals or engage in agriculture and earned their livelihood from the extraction of forest products. However, the key to their survival lies not in isolated self-reliance, but in a complex, symbiotic relationship with the cultivator peasantry around them. The forest people hunted wild animals and gathered forest products that were traded to their neighbors for agricultural products, metal implements, cloth, and the like. Richard Fox (1969:141–2) has expressed this relationship in the following way:

> Rather than being independent, primitive fossils, Indian hunter-and-gatherers represent occupationally specialized productive units similar to caste groups such as carpenters, shepherds or leather-workers. Their economic regimen is geared to trade and exchange with the more complex agricultural and caste communities within whose orbit they live. Hunting and gathering in the Indian context is not an economic response to a total undifferentiated environment. Rather it is a highly specialized and selective orientation to the natural situation: where forest goods are collected and valued primarily for external barter or trade, and where necessary subsistence or ceremonial items – such as iron tools, rice, arrow heads, etc. – are only obtainable this way. Far from depending wholly on the forest for their own direct subsistence, the Indian hunters-and-gatherers are highly specialized exploiters of a marginal terrain from which they supply the larger society with desirable, but otherwise unobtainable forest items such as honey, wax, rope and twine, baskets, and monkey and deer meat. Unlike the Australian aborigines or the Paiutes, their economic processes and well-being are dependent on the barter of these items for the crops and crafts of their more complexly organized plainsmen neighbors. The economic activity of Indian hunting-and-gathering groups is more akin to the specialization of caste hereditary occupation, than it is to the generalized environmental response of the Australians or Paiute.

This knitting together of the economies of these two kinds of people seems to be well documented during Mature Harappan times in Gujarat. It may have begun earlier, when we have evidence for the integration of sheep and goats into the hunting-gathering economy at the settlement of Bagor (and see Morrison, chapter 2 this volume). This site is stratified within a fossilized sand dune called the Mahasati Mound, above the Kothari River, tributary to the Banas. The Bagor sequence contains three phases (V.N. Misra 1973). Lowest Phase I is a purely microlithic settlement. In Phase II the microlithic technology continues and is complemented by the introduction of copper (bronze?) tools and pottery. The copper artifacts include three arrowheads, with a similarity to some Mature Harappan types,

along with a pin or awl and knife or spearhead. The latter has a midrib, not a feature characteristic of Harappan metallurgy at any stage. In Phase III the microlithic technology is accompanied by iron and glass artifacts. Faunal remains from Phase I include a predominance of sheep/goat bones (65 percent) as well as those from the zebu, buffalo, pig, antelope/gazelle, deer, hare, fox, and mongoose (Thomas 1975). This assemblage did not change through the three phases, although the absolute number of bones declines in Phase II.

Calibrated radiocarbon dates indicate that Period I can be dated to *c.* 5000–2800 BC and Period II to about 2800–600 BC (the Early Harappan). Period III is Iron Age and dates to 600 BC–AD 200 (V.N. Misra 1973:95). The fundamentals of a nomadic lifeway do not change at Bagor, but the presence of domesticated animals and metal tools suggests contact with technologically advanced peoples in a compelling way. Thus, Bagor also plays a role in understanding the symbiosis between ancient Indian hunter-gatherers and Harappan villagers and pastoral nomads.

This theme of interdependence in ancient India has also been discussed by G. Khanna (1988:172–83) and investigated by Rima Hooja in a book-length treatment (1988). Khanna's thoughts follow on his examination of the Bagor microlithic tool industry and a consideration of the pastoral nomadic nature of the economy we see at this site. This draws on an article attributed to the present author (Possehl and Kennedy 1979), where the relationship between Lothal and Langhnaj is discussed. While Khanna recognizes the fact that Bagor was in contact with many different sites, his perspective seems to focus on the local pattern of pastoral nomadism evidenced at Bagor, its "annual territorial range" (Khanna 1988:178). He turns to Ahar and the Banas River Chalcolithic sites for signs of interaction rather than the larger geographical dimensions of the problem as suggested by the arrowheads with Mature Harappan typological affinities. Rima Hooja's study also draws on the importance of Ahar and the Banas Chalcolithic, at least as a starting point for her study.

Summary

Lothal emerges as an important frontier settlement of the Sindhi Harappan. This was one of the Mature Harappan windows into peninsular India as well as the natural resources of Gujarat. I have referred to it as a "gateway settlement" in the past (Possehl 1980:76) and this is as appropriate today as it was then. The well-organized, compact size of Lothal suggests that it was completely planned prior to its construction and this, in its turn, leads to the

notion that the decision to establish Lothal was a self-conscious one on the part of someone or some group of Mature Harappans in the Indus Valley. They wanted to improve their ability to procure the products that could come from this region, and the areas on its eastern and northern edges. They recruited a few adventurous citizens with the requisite skills and sent them off to the southeastern part of their domain to establish a small town and enter into an economic deal with the native population there to bring them products. These were exchanged for items of Harappan commerce, like beads and metal implements. We should also recall that cloth has been one of the most important trade goods in all of human history and this may well have been an important commodity in this time as well.

Since we have evidence for manufacturing at Lothal we can suggest with good reason that some of the raw materials that were brought to the site were immediately turned into finished products, some traded back to the procurers of raw materials, the balance being sent back to the "bosses" in Sindh and paid to the workers at the site. The other balance, that in raw materials, would have been sent back "home" as well, and this should have been the predominant part of the commerce.

The route home seems to have been through Kutch, and I would see places like Surkotada and Dholavira as way stations, or ancient caravansary, along this route. Some people in Kutch seem to have been somewhat hostile to this inroad by the Mature Harappans and travelers there, moving between Sindh and the Nal Depression, would have needed a safe haven, especially if they were accompanied by valuable raw materials and finished products. An examination of these sites and, doubtless, many more will demonstrate that the symbiosis between hunting and gathering peoples and their settled neighbors has a very long history in the Indian subcontinent. It is also a topic where there is much scope for a sharing of intellectual interests between physical anthropology and archaeology.

References
The published version of this paper had references in a consolidated list.

Clutton-Brock, Juliet
1965 The fauna. Excavations at Langhnaj: 1944-63, Pt. 2. Poona: Deccan College Postgraduate and Research Institute: 44 pp.

Ehrhardt, Sophie and Kenneth A. R. Kennedy
1965 The human remians. Excavations at Langhnaj: 1944-63, Pt. 3. Poona: Deccan College Postgraduate and Research Institute: 54 pp.

Fox, Richard G.
1969 Professional primitives: hunters and gatherers of nuclear South Asia. Man in India, 49(2): 139-60.

Hooja, Rima
1988 The Ahar Culture and Beyond: Settlements and Frontiers of `Mesolithic' and Early Agricultural Sites in South-eastern Rajasthan, c. 3rd--2nd Millennia B.C. British Archaeological Reports International Series 412.

Joshi, Jagat Pati and Asko Parpola, editors
1987 Corpus of Indus Seals and Inscriptions. Vol. 1, Collections in India. Helsinki: Suomalainen Tiedeakatemia, Suomalaisen Tiedeakatemian Toimituksia Annales Academiae Scientiarum Fennicae, Sarja, Series B, Nide, Tome 239: 392 pp.

Kennedy, Kenneth A. R., John Chimet, Todd Disotell and David Meyers
1984 Principal-components analysis of prehistoric South Asian crania. American Journal of Physical Anthropology, 64(2): 105-18.

Khanna, Gurcharan Singh
1988 Reassessing the Mesolithic of India: With Special Reference to the Site of Bagor, Rajasthan. PhD Dissertation, Department of Anthropology, University of California, Berkeley: 226 pp.

Leshnik, Lawrence S.
1968 The Harappan 'port' at Lothal: another view. American Anthropologist, 70(5): 911-22.

Lukacs, John R. and J. N. Pal
1993 Mesolithic subsistence in North India: inferences from dental attributes. Current Anthropology, 34(5): 745-65.

Mehta, R. N., K. N. Momin and D. R. Shah
1980 Excavation at Kanewal. Baroda: Maharaja Sayajirao University, Archaeology Series, No. 17: 76 pp.

Misra, V. N.
1973 Bagor: a late Mesolithic settlement in north-west India. World Archaeology, 5(1): 92-100.

Possehl, Gregory L.
1974 Variation and Change in the Indus Civilization: A Study of Prehistoric Gujarat with Special Reference to the Post-urban Harappan. PhD Dissertation, Department of Anthropology, University of Chicago: 302 pp.

1980 Indus Civilization in Saurashtra. Delhi: B. R. Publishing Corporation: 264 pp.

Possehl, Gregory L. and Kenneth A. R. Kennedy
1979 Hunter-gatherer/agriculturalist exchange in prehistory: an Indian example. Current Anthropology, 20(3): 592-93.

Rao, S. R.
1979 Lothal: A Harappan Port Town, 1955-62. Memoirs of the Archaeological Survey of India, No. 78, Vol. 1: 268 pp.

1985 Lothal: A Harappan Port Town, 1955-62. Memoirs of the Archaeological Survey of India, No. 78, Vol. 2: 711 pp.

Sankalia, H. D.
1965 Archaeology. Excavations at Langhnaj: 1944-63, Pt. 1. Poona: Deccan College Post-graduate and Research Institute: 102 pp.

Thomas, P. K.
1975 The role of animals in the food economy of the Mesolithic culture of Western and Central India. In, A. T. Clason, ed., Archaeozoological Studies. Amsterdam: North-Holland:
322-28.