Chapter 1: Bricks, Beads and Bones

Exercises — Exercises

Q1 List the items of food available to people in Harappan cities. Identify the groups who would have provided these.

The Harappans ate a wide range of plant and animal products. The plant foods, reconstructed from charred grains and seeds, included wheat, barley, lentil, chickpea and sesame; millets came from sites in Gujarat, while finds of rice were relatively rare. Animal foods are indicated by bones of domesticated cattle, sheep, goat, buffalo and pig, along with those of wild species such as boar, deer and gharial, and also fish and fowl. These foods were supplied by different groups. Farmers (agriculturists) grew and provided the cereals and pulses. Herders or pastoralists reared the domesticated animals that gave milk and meat. Fisher-folk supplied fish, and fowling provided birds. The chapter notes that archaeologists are unsure whether the Harappans hunted wild animals themselves or obtained meat from other hunting communities, so hunting groups may also have contributed.

Q2 How do archaeologists trace socio-economic differences in Harappan society? What are the differences that they notice?

Archaeologists use two main strategies. First, they study burials. At Harappan sites the dead were generally laid in pits, but sometimes the pit was lined with bricks, which may hint at differences in status. Graves contain pottery and ornaments, and jewellery is found with both men and women; one male skull at Harappa had an ornament of three shell rings, a jasper bead and hundreds of micro beads, and some burials had copper mirrors. On the whole, however, the Harappans did not bury precious things with the dead, so burials show little social differentiation. Second, they study artefacts, classifying them as utilitarian (querns, pottery, needles, flesh-rubbers of ordinary stone or clay, found throughout settlements) or luxuries (rare items of costly, non-local materials or complex technology, such as faience pots and gold). Such rare, valuable objects are concentrated in large cities like Mohenjodaro and Harappa and scarce in small settlements, while gold was found only in hoards.

Q3 Would you agree that the drainage system in Harappan cities indicates town planning? Give reasons for your answer.

Yes, the carefully planned drainage system is strong evidence of town planning. In the Lower Town the roads and streets were laid out along an approximate grid pattern, intersecting at right angles. It seems that streets with drains were laid out first and houses built along them afterwards, because every house needed at least one wall along a street so that its waste water could flow into the street drains. Every house had its own brick-paved bathroom whose drains connected through the wall to the street drains. The main channels were made of bricks set in mortar and covered with loose bricks (sometimes limestone) that could be lifted for cleaning; house drains first emptied into a sump or cesspit where solid matter settled before the water flowed into the street drains, and long channels had sumps at intervals for cleaning. Such drains were found even in smaller settlements like Lothal. This deliberate laying of drains before houses shows the settlement was planned first and then built.

Q4 List the materials used to make beads in the Harappan civilisation. Describe the process by which any one kind of bead was made.

A remarkable variety of materials was used to make beads: stones such as carnelian (a beautiful red), jasper, crystal, quartz and steatite; metals such as copper, bronze and gold; and shell, faience and terracotta or burnt clay. Some beads were made of two or more stones cemented together, and some of stone with gold caps. Their shapes were numerous - disc-shaped, cylindrical, spherical, barrel-shaped and segmented - and some were decorated by incising, painting or etching. The process for a carnelian bead is well understood from archaeologists' experiments. Its characteristic red colour was obtained by firing the yellowish raw material and the beads at various stages of production. Nodules were first chipped into rough shapes and then finely flaked into the final form. Grinding, polishing and drilling completed the process. Specialised drills used for this work have been found at Chanhudaro, Lothal and, more recently, Dholavira.

Q5 Look at Fig. 1.30 and describe what you see. How is the body placed? What are the objects placed near it? Are there any artefacts on the body? Do these indicate the sex of the skeleton?

Figure 1.30 shows a Harappan burial, which can be described using what the chapter tells us about how the Harappans buried their dead. The skeleton is laid out in a pit dug into the ground, with the body placed in an extended position - lying straight on its back. Around and near the body are grave goods, chiefly pottery vessels, placed there perhaps in the belief that they could be used in the afterlife. Ornaments and jewellery are also sometimes found with the body; at Harappa, for example, a male skull was accompanied by an ornament of three shell rings, a jasper bead and micro beads, and some burials contained copper mirrors. As for sex, such grave goods do not reliably indicate it, because the chapter states that jewellery has been found in the burials of both men and women. On the whole the Harappans did not bury precious things with the dead, so the objects shown reflect their burial customs rather than great wealth or a clear marker of sex.

Q6 Describe some of the distinctive features of Mohenjodaro.

Mohenjodaro, the best-known Harappan site, is a remarkable example of a planned urban centre. The settlement was divided into two sections: a smaller but higher part and a much larger but lower part, which archaeologists call the Citadel and the Lower Town respectively.

The Citadel owed its height to buildings raised on mud-brick platforms, and it was walled, physically separating it from the Lower Town. The Lower Town was also walled, with several buildings set on platforms that acted as foundations. It has been calculated that laying these foundations alone would have taken about four million person-days of labour, showing large-scale mobilisation of workers. Building activity was then restricted to fixed areas on the platforms, so the city was clearly planned first and then implemented. The bricks used, whether sun-dried or baked, had a standardised ratio in which length and breadth were four times and twice the height.

A distinctive feature was the drainage and street system. Roads and streets followed an approximate grid pattern intersecting at right angles; streets with drains were laid first and houses built along them, each house connected to the street drains. The domestic architecture is also notable: many houses were centred on a courtyard with rooms on all sides, and showed a concern for privacy, with no windows in the ground-level walls and a main entrance that did not directly reveal the interior. Every house had its own brick-paved bathroom, many had staircases to an upper storey or roof, and there were wells, estimated at about 700 in all.

On the Citadel stood structures for special public purposes, including a massive warehouse and the Great Bath - a large watertight rectangular tank surrounded by a corridor, with steps leading down, rooms on three sides and a nearby building with eight bathrooms. These features together make Mohenjodaro a striking example of Harappan urban planning.

Q7 List the raw materials required for craft production in the Harappan civilisation and discuss how these might have been obtained.

Harappan craft production - bead-making, shell-cutting, metal-working, seal-making and weight-making - required a wide variety of raw materials. These included clay, stones such as carnelian, jasper, crystal, quartz, steatite and chert, timber, metals such as copper, bronze and gold, and shell, as well as lapis lazuli. While some materials such as clay were locally available, many such as stone, timber and metal had to be procured from outside the alluvial plain.

The Harappans used several strategies to obtain these. One was to establish settlements in areas where a raw material was found. Thus Nageshwar and Balakot lay near the coast where shell was available; Shortughai in far-off Afghanistan lay near the best source of lapis lazuli; and Lothal was close to sources of carnelian (from Bharuch in Gujarat), steatite (from south Rajasthan and north Gujarat) and metal (from Rajasthan).

A second strategy was to send expeditions to distant areas, such as the Khetri region of Rajasthan for copper and south India for gold. These expeditions established communication with local communities, and occasional finds of Harappan artefacts such as steatite micro beads in these areas point to such contact; the Ganeshwar-Jodhpura culture of the Khetri area may have supplied copper to the Harappans.

Materials were also obtained through long-distance trade with distant lands. Copper was probably brought from Oman (both Omani and Harappan copper carry traces of nickel), and Mesopotamian texts mention contact with Dilmun (Bahrain), Magan and Meluhha, the last probably the Harappan region, which supplied carnelian, lapis lazuli, copper, gold and wood. Goods were transported across land by bullock carts and along riverine routes on the Indus and its tributaries, as well as by coastal and sea routes.

Q8 Discuss how archaeologists reconstruct the past.

Because the Harappan script remains undeciphered, archaeologists reconstruct the past mainly from material evidence rather than from writing. This evidence includes pottery, tools, ornaments and household objects. Organic materials such as cloth, leather, wood and reeds generally decompose, especially in tropical regions, so what usually survives is stone, burnt clay (terracotta) and metal.

To reconstruct subsistence, archaeologists study charred grains and seeds (analysed by archaeo-botanists) and animal bones (studied by archaeo-zoologists), which reveal the crops grown and the animals kept. Recovering artefacts is only the beginning; archaeologists then classify their finds, first by material - stone, clay, metal, bone, ivory - and then, more difficultly, by function, deciding whether an object was a tool, an ornament, both, or meant for ritual use. Function is judged partly by resemblance to present-day things (beads, querns, blades, pots) and partly by the context in which an object was found - in a house, a drain, a grave or a kiln. Where direct evidence is lacking, they use indirect evidence; for instance, clothing is reconstructed from traces of cotton together with depictions in sculpture.

Archaeologists must also develop frames of reference, as with the first Harappan seal, which could only be understood once its cultural sequence and its parallels with Mesopotamian finds were established. They pay attention to stratigraphy - the study of layers, in which lower layers are older - which helps assign artefacts to cultural periods; Wheeler insisted on following the stratigraphy of a mound rather than digging along uniform horizontal lines. Reconstruction has limits: only broken or discarded objects were usually thrown away, so intact finds are accidental rather than typical, and interpretations, especially of religion, remain speculative and can be reversed by careful re-examination of the data.

Q9 Discuss the functions that may have been performed by rulers in Harappan society.

There are clear indications that complex decisions were taken and implemented in Harappan society, which suggests some form of authority. The extraordinary uniformity of Harappan artefacts - pottery, seals, weights and bricks - is striking; bricks, though obviously not made in a single centre, had a uniform ratio throughout the region from Jammu to Gujarat. Settlements were strategically located, and labour was mobilised on a large scale for making bricks and for constructing massive walls and platforms. Such activities imply that someone organised and directed them.

Yet archaeological records give no clear picture of who the rulers were. A large building at Mohenjodaro was labelled a palace, but no spectacular finds were associated with it. A stone statue was called the 'priest-king' by analogy with Mesopotamian priest-kings, but the ritual practices of the Harappans are not well understood, and there is no way of knowing whether those who performed rituals also held political power.

Archaeologists therefore hold different views. Some think Harappan society had no rulers and that everybody enjoyed equal status. Others feel there was no single ruler but several - Mohenjodaro with one, Harappa with another, and so on. Yet others argue that there was a single state, given the similarity of artefacts, the planned settlements, the standardised ratio of brick size and the establishment of settlements near sources of raw material.

From these indications, the functions a ruler or ruling authority may have performed include planning cities and their drainage, organising and mobilising large bodies of labour, enforcing the standardisation of bricks and weights, selecting the locations of new settlements, and regulating the procurement of raw materials and long-distance trade.

Q10 On Map 1, use a pencil to circle sites where evidence of agriculture has been recovered. Mark an X against sites where there is evidence of craft production and R against sites where raw materials were found.

Use only the sites named in the chapter. Circle the agricultural sites - Kalibangan, where a ploughed field with furrows at right angles was found, and Banawali, where a terracotta plough model was recovered (Shortughai, with traces of canals, may also be circled). Mark an X against the craft-production centres - Chanhudaro (bead-making, shell-cutting, metal-working, seal- and weight-making), Lothal, Nageshwar and Balakot (shell objects), Dholavira (specialised drills) and the large cities Mohenjodaro and Harappa. Mark an R against sites near sources of raw materials - Shortughai (near lapis lazuli) and Lothal (near carnelian, steatite and metal). Circle, X or R each site in pencil on Map 1 accordingly.

Q11 Find out if there are any museums in your town. Visit one of them and write a report on any ten items, describing how old they are, where they were found, and why you think they are on display.

This is a project to be done individually. Find out which museums exist in your town, visit one, and select any ten displayed items to write about. For each item, record its approximate age, the place where it was found (its provenance), and your own reasoning for why it is considered important enough to be on display. Use the museum labels and any guidebook for accurate details, and present your findings as a short illustrated report.

Q12 Collect illustrations of ten things made of stone, metal and clay produced and used at present. Compare these with the pictures of the Harappan civilisation in this chapter, and discuss the similarities and differences that you find.

This is a project to be done individually. Collect pictures of ten present-day objects made of stone, metal and clay (for example grinding stones, metal vessels and clay pots), then set them beside the illustrations of Harappan objects in this chapter, such as the saddle quern, copper and bronze vessels, beads and terracotta figurines. Discuss the similarities (in shapes, materials and uses) and the differences (in technology, decoration and purpose), and present your comparison with the illustrations clearly labelled.