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** This Unit has been adopted from **MAN-002** (Archaeological Anthropology), **Block 5** (Palaeolithic Cultures), **Units 1, 2, 3, 4** (Lower Palaeolithic Cultures, Middle Palaeolithic Cultures, Upper Palaeolithic Cultures, Palaeolithic Art) and **Block 6** (Mesolithic Cultures), **Units 1 & 2** (Mesolithic Features and Indian Mesolithic Cultures).

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****** This Unit has been adopted with some changes from **EHI-02** (India: Earliest Times to 800 A.D.), **Block 4** (India: 6th to 4th Century B.C.), **Unit 17** (Buddhism, Jainism and Other Religious Ideas).

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Contents

GUIDELINES FOR STUDY OF THE COURSE

In this Course we have followed a uniform pattern for presenting the learning material. This starts with an Introduction to the Course underlining the significant developments in chronological order and covers four major Themes with coverage of 19 sub-themes or Units. For the convenience of study, all the Units have been presented with a uniform structure. Objectives as the first section of the Unit have been included to help you find what are you expected to learn from the study of the Unit. Please go through these objectives carefully and keep reflecting and checking them after studying a few sections of the Unit. Introduction of the Unit introduces you to the subject area covered and guides you to the way subject matter is presented. These are followed by the main subject area discussed through sections and sub-sections for ease of comprehension. In between the text, some Check Your Progress Exercises have been provided. We advise you to attempt these as and when you reach them. These will help you assess your study and test your comprehension of the subject studied. Compare your answers with the answer guidelines provided after the Summary. The Key Words and unfamiliar terms have been provided at the end of each Unit. At the end of each Unit under Suggested Readings we have also provided a list of books and references. These include sources and books which are useful or have been consulted for developing the material for the concerned Unit. You should try to study them.

COURSE INTRODUCTION

India's history covers a long span of time. It was punctuated by changes in political, economic, social and religious aspects. Of course there were continuities too. The purpose of this course is to introduce you to the major changes and continuities which marked the various stages of history of India. It should be kept in mind that human communities all over the world did not go through the same pace of change and also that the nature of changes, where they took place, was not uniform. That is why when we study Indian society in different stages of its history, we should not expect that even when major changes took place in India, they were identical with what happened, say, in the history of China or in the history of Europe. There were of course stages of change in many societies which were similar in nature. For example, a significant change which took place in Indian society was the transition from food-gathering and hunting to farming. In a later stage, there was the emergence of State organisation. These are broad changes which took place in many other societies also at different points of time, but within these broad changes there were variations. When we study Indian history, we therefore need to know two things:

1) What were the major stages of change in Indian history and how did they come about?

2) What were the particular institutions and cultural elements in Indian society which may be considered different from those in other societies?

In Indian history when we use the term 'Ancient', we imply the existence of other periods such as 'Medieval' and 'Modern'. You shall be reading about the history of 'Medieval' and 'Modern' periods later on, but right now you may well ask the question: what is meant by 'Ancient' and what distinguishes the 'Ancient' from other periods of our history? Frankly speaking, this is not an easy question to answer. In one sense we have borrowed the idea of dividing the history of our country into three periods by following the writings on European history. But this division is not entirely without justification, although historians continue to debate as to when the 'Ancient' period ended and when the 'Medieval' period began.

In the history of a society we cannot arbitrarily choose a date to draw a sharp line between two periods but it is possible to distinguish the history of one period from that of another by comparing the major social, economic, political and cultural characteristics of these periods. In doing this, historians have come to feel that the historical processes and institutions which went into the making of the ancient period of our history and characterised its society started undergoing perceptible changes from about the 6^{th}-7^{th} centuries CE. There was of course never a complete break from the earlier period, but while certain old institution ceased to exist, others started acquiring new shapes. For example, the republican form of political organization which continued in many parts of northern India till the Gupta period went out of existence during it. In the area of economy, new types of agrarian relations emerged. Caste system which had started emerging from the Later Vedic period took new shapes in the post-Gupta period. There were further elements of regional cultures, like regional languages, which started crystallising in the post-Gupta period. All these changes perhaps indicate that a new phase in Indian history had begun in the 7-8^{th} centuries, although we will be wrong in thinking that they marked a sharp break with the earlier phase.

Another question which is relevant and which also you may feel like asking is: How do we know about historical events and historical changes which took place

so far back in the past? In other words, when historians write about the past what do they depend on since they cannot observe the past? A simple answer to this will be that human societies of all ages have left behind some indication in the form of surviving material, of how they lived. For example, we know about the human communities which lived as hunters and gatherers from the simple stone tools which they prepared and from other types of evidence – like the crude drawings which they made on their rock-shelters. But, in fact, the answer is not as simple as this. What the ancient people left behind has to be discovered and the meaning of what they left behind has to be understood properly, and in most cases, doing this involves work of several types of experts. We cannot make out how exactly a stone tool was made by simple looking at it; it is an expert — in this case a prehistoric archaeologist — who alone has the required training to provide information on this. Supposing an archaeologist comes across remains of animals the ancient hunter hunted, the animals have to be identified by another expert — a palaeontologist. Similarly, the dating of such remains to find out how far back in time do they go has to be done by another type of scientist in his laboratory.

This does not mean that finding out details about only such objects requires collaboration between different types of experts. If you are studying about an age when coins of metal were in use, the numismatist who specialises in the study of coins may give further details about them, but if you want to know the exact percentages of different metals used in making the coin, you shall again have to depend on laboratory tests carried out by scientists. Similarly, only a specialist epigraphist can read and give us the meanings of what was written in the form of inscriptions using different scripts and languages of the past. In the medieval period the ruler of Delhi Firoz-Shah-Tughlaq brought to Delhi Ashokan pillars on which were engraved inscriptions in unknown letters (you can still see one such pillar at Firuz-Shah-Kotla), but even the scholars of his period could not read the letters. It was only many centuries later that an employee of the English East India Company, James Princep, who after considerable efforts, finally deciphered the script in which the inscription and many other inscriptions of Ashoka were written.

These are some examples of how historians have to labour to gather information about the past, and the material remains and records from past societies from which they gather information are called sources of History. These sources of course are not uniform for all periods of History. For example, you have already found out that hunting/gathering communities have not left behind any written records because the art of writing was not known to them. Even after writing came to be known not all written records are of identical nature. Even so, historians have to depend on whatever sources are available to them and reconstruct the past for us. The reconstruction of the past of course does not mean that the historian gives us simply the contents or the information which the sources contain. He has to interpret them and thus make us interested in the meaning of the objects which have survived from the past and also in making connections between these objects. If the archaeologists simply arrange before us the tools of different stone ages, we shall not be able to either say how they were made or what use they were put to, nor shall we be able to see how the periods in which these tools were made were different from one another in many respects, in climate, in the mode of getting food, in the social organization of human groups and even in customs and beliefs. Let us take another example. From the study of written texts and from excavations carried out by archaeologists we come to know that cities emerged in the Ganga valley between the sixth century BCE and fourth century BCE. Since this was a new phenomenon in the history of this region, historians are required to explain, in addition to telling

us that cities emerged and in the context of the social situation of the period what they represented.

By giving us explanations and interpretations historians should help us think and even provoke us into questioning their explanations and their ways of understanding the past. This means that like in other areas of knowledge, history writing also keeps on changing and shifting its focus. This may to some extent explain why in the writing of ancient Indian history, historians have moved away from writing mainly about kings and their achievements and have taken up the study of different dimensions of society and of how changes took place in society. Between historians, interpretations or explanations vary; controversies exist in the explanations of various historical phenomena, and in addition to new sources which archaeologists epigraphists, numismatists and others bring to light, it is also new ways of looking at things and new questions which crop up which keep on expanding the horizon of our knowledge about the past and do not allow this knowledge to remain stagnant.

The Course on Ancient Indian history that you are going to study is divided into four **Themes**. Each Theme consists of a number of Units. Each Theme is intended to introduce to you a major concern or period which may be considered as significant in the context of the history of the ancient period of our country. **Theme I** is a broad category which deals with issues like geographical regions of India, sources of ancient Indian history, the tools, technology, society, and art of the Palaeolithic people in a regional context. Regions of India have been seen from a historical and geographical perspective. The Unit (1) explores the close relationship between humans and land. How historians and geographers have visualised the geographical space, and how the consciousness of space was present among the ancients are some of the issues addressed in the Unit. It also discusses important sources for the reconstruction of ancient Indian history. The last two Units (2 & 3) in the first Theme deal with prehistoric cultures. Attempt has been made to move beyond the discussions about origins and chronology and explore the nature of various archaeological cultures and the changes manifested by them. The analysis is based on empirical data, excavations, and tangible material remains. The prehistoric period of history is an important phase that provides the antecedents to the earliest history.

The second **Theme** explores the transition towards the proto-historic cultures of the Indian subcontinent. The first Unit (4) under this theme takes us to the beginnings of agriculture and domestication of animals. This slow, gradual change from Palaeolithic lifeways established new type of links between humans, animals and land and was revolutionary. The last three Units (5, 6, 7) deal with the Harappan civilization. The excavations carried out in Harappa and Mohenjodaro, in the 1920s changed our perception of Indian history. New cities dating back to 2600 BCE were discovered; even *ante* – dating the Vedic cultures. The Units deal with the processes by which the urban centres evolved gradually, their antecedents, town planning, social structure, trade, religion and decline.

In **Theme III** the focus will be on exploring the cultural profiles of different regions of India between the beginning of the second millennium BCE and 6th century BCE. The Theme also underlines the fact that change was not a constant movement towards development. The highly urbanised Harappan culture suffered decline and gradually agriculture-based rural cultures were formed in all the major regions of the subcontinent. Small settlements based on small scale farming come to be transformed into regular rural settlements of later periods. Initially the cultures of the small farming settlements were Chalcolithic, but from the beginning of the first millennium BCE, iron came to be known to different cultures, for example, Painted Grey Ware

culture of the Upper Ganga valley as also the megalithic cultures of peninsular India. The impact of this metal on different cultures is yet to be properly assessed but the point can be forcefully made that all the crucial ingredients of village life such as the techniques of cultivation (even of irrigation), production of varieties of major crops cultivated even today and combining farming with rearing domesticated animals were present in some measure or the other in the regional cultures of the subcontinent between the second millennium BCE and first millennium BCE. This widespread cultural pattern, of course, co-existed with other cultural patterns such as pastoralism and we must also remember that despite the emergence of farming communities, hunting and gathering continued as a way of life. Secondly, in the Ganga valley, the pace of historical change became suddenly fast from the first millennium BCE onward. The Vedic texts along with archaeological material are used to reconstruct the society, economy, polity of the Early Vedic and the Later Vedic period. A new type of society emerged which meant that people living in it had new questions about life, sought meanings in life and had new aspirations. The *Upanishads*, the teachings of the Buddha and Mahavira, and various other types of ideas of the period sought answers to life's problems. Buddhism and Jainism spread rapidly in the centuries that followed.

The last **Theme IV** is concerned with the period from the 6th century BCE till the end of the Mauryan period. The changes taking place in the Vedic period matured in 6th century BCE. Large territories of *mahajanapadas* emerged; monarchies and republics formed. 'Second Urbanization' flourished. Historians place the beginning of the early historical period of Indian history in this phase. The use of metallic money, trade, rise of powerful *gahapatis* and *setthis*, cities and towns bred a sense of alienation among the people. A complex social order arose in which relations between the different social groups was defined. The C*aturvarna* system which appeared in the Later Vedic phase provided the theoretical frame in which society was organized. The fight for supremacy among the *mahajanapadas* resulted in the emergence of Magadha as the most powerful *mahajanapada*. It is during this period that India's northwest came to play a significant role in Indian politics. The great Persian empire was crushed by the expanding army of Alexander of Macedonia of North Greece. He advanced to Panjab plains and fought valiant battles with territories of this region headed by their warriors. The contact with the Persians and the Greeks, opened up north-western part of the subcontinent to Persian and Greek cultural influences. Later the Mauryas laid the basis of a huge empire which incorporated the north-west too. The last two Units (18 & 19) take a sweeping view on the status of gender in ancient India and how in the fields of environment, science and technology ancient Indians achieved and accomplished a lot.

The History Elective Course, EHI-02 was written more than twenty years back. When it was published for the first time, thanks to the work of distinguished panel of experts, Convenor and Course preparation team, it was well appreciated. Now, IGNOU is bringing out a revamped course which will address substantial changes in the readings of early Indian history. Since the 1990s much more data has been brought to light. The new interpretations of the existing data also require a fresh look at various issues of early India. An attempt has been made to incorporate such changes in the present Course.

BLOCK 2

THE ADVENT OF FOOD PRODUCTION AND HARAPPAN CIVILIZATION

UNIT 4 THE NEOLITHIC PHASE*

Structure

4.0 OBJECTIVES

In this Unit, you will learn about:

- the beginning of agriculture in different parts of the Indian subcontinent;
- the development of pastoralism and the transition from hunting-gathering to agriculture;
- Neolithic cultures in their regional setting in India;
- learn the significance of the site of Mehrgarh; and
- learn about the Ashmounds as a specific feature of the South Indian Neolithic culture.

4.1. INTRODUCTION

This Unit will present the details about the definition, nature and characteristics of the Neolithic culture. The focus will be on the Indian Neolithic.

Neolithic was a very important stage of the history of human culture when humans were no longer dependent entirely on nature but had started to exploit nature to

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their own advantage. The long association of humans with nature enabled them to distinguish some plants and animals which they could manipulate according to their needs. They tamed some animals and kept them in pens and took the responsibility of producing plant food by cultivating some useful varieties. They needed to clear the forest and till the soil for agriculture. From nomads the people became settled in villages, New tool types made with new techniques emerged. Though new subsistence strategies of the domestication of plants and animals emerged, old modes like hunting and gathering of food continued.

4.2 CHANGES IN CLIMATE AND SUBSISTENCE

Prehistory is divided into various cultural periods such as the Palaeolithic, Mesolithic, Neolithic and the Chalcolithic. Among these phases, the Neolithic period succeeded the Palaeolithic and Mesolithic, and preceded the Chalcolithic period. In the Palaeolithic and Mesolithic periods, humans did not produce food. They did not domesticate animals and cultivate plants. They gathered naturally available plant food such as tubers, fruits, leaves and nuts, trapped fish and hunted wild animals. We are not certain if the people of the later part of the middle and early part of the Upper Palaeolithic were involved in any horticultural practices such as planting of seedlings or if they became friendly with animals. The social organization in the prehistoric period was influenced by the hunting-gathering mode of production. Since the amount of food gathered through hunting and gathering was limited and it had to be consumed immediately, smaller bands consisting of a few people existed in this period, although large congregations would have existed in the areas that had a lot of resources.

Several cultural changes began to occur around the beginning of the Holocene in some parts of the world, leading to the development of Neolithic cultures. Major shift in climate, in many parts of the world, is suggested during the transition from the Late Pleistocene to Holocene, after the end of the Ice Age. Warm climate began to set in across the world, leading to changes in the nature of animal and plant populations and their distribution. These environmental changes influenced the Neolithic cultures and determined the ways of life of the Neolithic people to some extent. However, people made certain conscious cultural decisions to modify their life-ways in the changing climate conditions.

The Neolithic cultures were pastoral and farming cultures, but without the knowledge of metal implements. They used polished stone tools, lithic tools, and pottery. In the Neolithic period, humans started to cultivate plants and domesticate animals. They began to effectively modify, control and manage the natural resources to their advantage. These measures increased their food security, but at the same time, altered their ways of life. Since they domesticated animals and plants, they had to settle at a place permanently or for a specific period of time, to take care of the animals and plants. Their economic responsibilities increased; they were engaged, at least to a limited degree, in the management of plants, pastures, animals and irrigation. They practiced selective breeding of plants and animals and had developed a good knowledge and understanding of the environment. However, the advent of Neolithic does not necessarily mean that people stopped hunting animals and gathering of plant foods. They continued to hunt wild animals, gathered plant foods and were involved in fishing to supplement their diet, since the consumption of diverse food resources catered to their physical needs and effective survival.

4.3 NEOLITHIC CULTURE

The term 'Neolithic' was first used by Sir John Lubbock in his book titled *Prehistoric Times*, published in 1865. He was the first Baron of Avebury (b. 1834- d. 1913) in England. By adding the concept of Neolithic Age to the cultural historical sequence, he sought to refine the Three Age system (Stone Age, Bronze Age and Iron Age), which had been proposed by C. J. Thomsen in the 1830s.

The term '*neo*' means new, and '*lithic*' means stone. Unlike the Palaeolithic (Old Stone Age) period, people in this period began to use polished stone tools and axes, often called **celts**. The Neolithic tools appear more refined than the crude flaked stone tools of the Palaeolithic period (Figure 4.1).

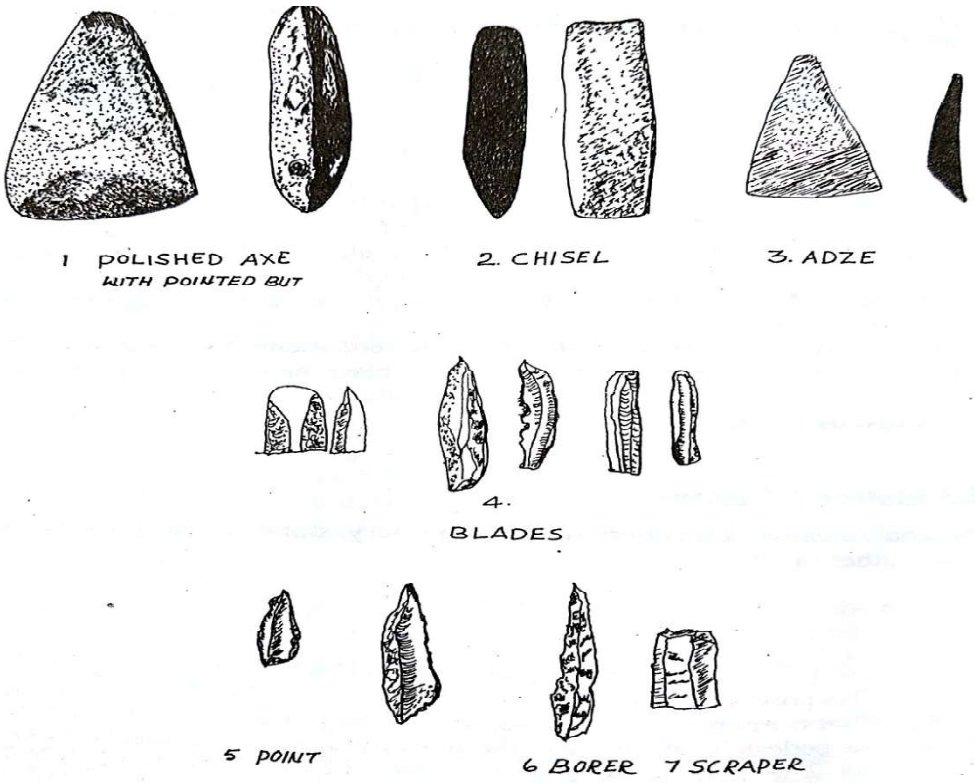

Fig. 4.1: Neolithic Blade and Stone Tool Industry in South India. Source: EHI-02, Block 3.

They needed more diverse variety of tools since they were involved in different types of activities. Generally, Palaeolithic tools have rough or finely flaked surfaces. Sometimes, the natural context (rolled pebble surface) was retained while flaking. This would serve as a butt end for a more comfortably handling of the tools during their use. Not much evidence is available for the polishing of tools in the Palaeolithic period. In the Neolithic period they polished some of the stone tools. However, they continued to use flaked and unpolished tools as well. The concept of Neolithic has undergone a lot of change over the years. Now, it denotes early pastoral and farming village communities that did not use metal.

4.3.1 The Concept of Neolithic Revolution

The agro-pastoral cultural developments of the early Holocene were labelled as '**Neolithic Revolution**' by V. Gordon Childe in 1941. The Neolithic and Chalcolithic cultures were treated as food producing economies by him. The idea of Neolithic Revolution refers to the origin of agriculture, animal

domestication and a settled way of life. It indicates the transformation of society from a food gathering (hunting-gathering) economy to a food producing (agro-pastoral) economy. The idea of revolution pertaining to the Neolithic way of life signifies a major transformation in human cultural adaptation.

Miles Burkitt identified the Neolithic culture with polished tools, animal and plant domestication. Thus, the 'Neolithic' does not denote the use of new tools (Figure 4.2) alone, but also new modes of adaptation and ways of life.

The introduction of domestication of plants and animals led to the production of a large quantity of grains and animal food. The food that they produced had to be stored and hence, pottery-making emerged. They had to settle in open areas away from caves and thus, houses were built. Large villages developed and permanent residences were built. Settlements were fenced since the cattle and sheep had to be protected. These activities gradually led to food surplus and craft specialization. Because of the food security more people could settle in the villages. Hence, the cultural developments of this period are termed as Neolithic Revolution.

The surplus food production was one of the main factors for the development of early urban cultures at a later context. It allowed for the development of various crafts, urban formations and early states in the succeeding Bronze Age.

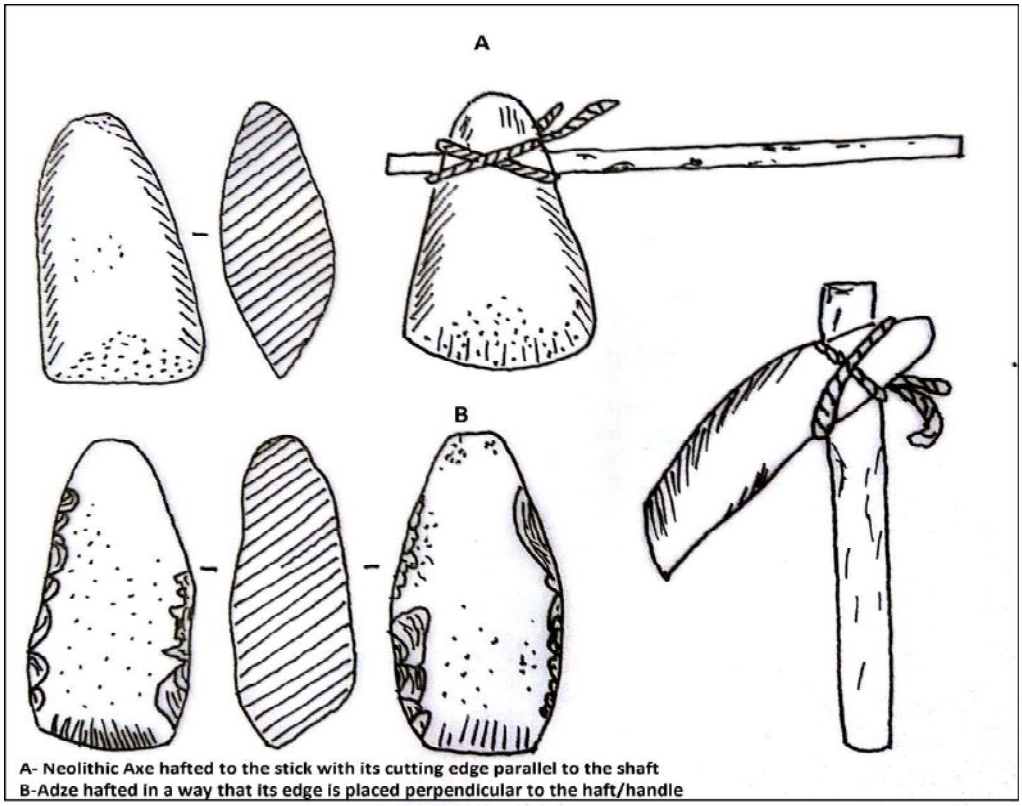

Fig. 4.2: Neolithic tools. Source: Man-002, Block 7, Unit 1.

4.3.2 Debate about the Transition from Hunting-Gathering to Agriculture

Various explanations have been offered regarding the origins of farming. V. Gordon Childe argued that farming began in the Fertile Crescent (South-west Asia) due to climatic changes. Geomorphological and climatic factors contributed to the formation of oases separated by vast swathes of desert. These oases attracted

animals, humans and plant concentrations. It was this close contiguity between them that perhaps led to early domestication.

Robert Braidwood challenged this notion of climatic changes and has argued for a slow, gradual evolution of food production. Farming began in nuclear zones, those areas that had abundant animal and plant species. Change to domestication of plants and animals occurred because the culture had reached a stage when it became receptive to this change. Thus, transition to agriculture was largely due to a combination of factors such as changes in human nature and environmental circumstances.

Population dynamics has been considered as the main causal determinant in the origins of farming by Lewis R. Binford. Agriculture was a response to demographic tensions. Population pressures in certain sedentary groups around 9000 BCE in the Near East led to a more intensive exploitation of natural resources, making transition to agriculture possible.

Kent Flannery believed that the beginning of agriculture was a long-drawn process rather than an event. According to him, the seasonal movement of hunter-gatherers was scheduled in such a way that they could exploit different plants and animals in different eco-zones. They, thus, had access to a broad spectrum of economy rather than a few plants and animals. Certain plants like maize and wheat developed into hybrid varieties and could be grown at different times of the year. Thus, the old pattern of hunting and gathering was replaced by a subsistence pattern based on prolonged stay and food production.

According to one school of thought, culture is seen as an adaptation to natural environment. However, culture should be seen partly as an adaptation to the environment and partly as the result of conscious decision making by humans along with various social and cultural factors. Trevor Watkins argued that the old notions of economy-based transformation gave way to 'culture and cognition' based transformation of societies. He argued that the Epi-Palaeolithic people came together in the first large permanent communities to form extensive settlements which only later needed to be fed by farming. Here the argument is not that agriculture developed as a sudden invention or event, but as a gradual process, as a necessity to feed a large group of people. Trevor Watkins suggested that the small-scale band-level societies in the Epi-Palaeolithic Levant became large co-resident communities. Agriculture and animal domestication developed later. He suggested that social and cultural factors were more important than the economic necessities and people gave much more stress on living in large communities leading to the development of farming.

Therefore, Neolithic revolution was, in fact, a long-drawn process, aided by social and cultural factors, and also environmental conditions. It was not a simple one-time invention or episode, as imagined by a few.

4.3.3 Neolithic in Global Context

The conventional conception of Neolithic period as the beginning of agriculture and animal domestication, permanent settlements and introduction of ceramics at a specific point of time (or as a package) might not be considered as valid. These cultural traits, sometimes together and sometimes in isolation, developed in various parts of the world. All the Neolithic communities were not fully

sedentary and some of the communities were semi-sedentary and adopted nomadic practices as well.

Early evidence of Neolithic is found from the Fertile Crescent region covering the Nile Valley of Egypt, Israel, Palestine, Syria and Mesopotamia; the Indus Region and the Ganga Valley of Indian subcontinent; China and Meso-America. By about 10,000-5,000 BCE agriculture and pastoralism emerged in many parts of the world, leading to several cultural developments. Although agriculture has early beginnings in many parts of the world, South-west Asia has the earliest evidence of the development of agriculture and animal domestication. The region of Israel, Palestine and Syria (Levant), and Turkey and Iraq witnessed early development of Neolithic villages around the ninth millennium BCE.

4.3.4 Neolithic and Contemporary Cultures

The Neolithic culture is seen as a major turning point in human history. However, not all regions of the world witnessed the Neolithic culture. Neolithic ways of life appeared earlier in regions such as South-west Asia, Egypt, Europe, Meso-America, north-western part of India, Ganga Valley in India and China and it appeared very late in many other regions. Within India, the Neolithic culture first appeared in north-western parts of India. In Kashmir, south India and eastern India they appeared at a later stage. Some regions of India did not witness Neolithic cultures at all, and the Mesolithic culture was directly succeeded by Iron Age culture, for example in Tamil Nadu and Kerala.

All the Neolithic cultures of India had a more or less similar degree of cultural adaptation. Neolithic cultures of India were contemporary with Harappan, Chalcolithic and microlith-using hunter-gatherers. Thus, it should be noted that Neolithic cultures of India were not isolated cultural units. In fact, except for the use of copper, not much difference is noticed between the Chalcolithic cultures and Neolithic cultures.

Check Your Progress Exercise 1

1) Discuss in brief the concept of Neolithic Revolution.

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2) Discuss the main features of the debate about the transition from hunting-gathering to agriculture.

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4.4 NEOLITHIC CULTURES OF INDIA

The Neolithic cultures mark the end of the Stone Age. Neolithic of India constitutes an important phase. A Neolithic celt was found in India in 1842 by Le Mesurie in the Raichur district of Karnataka, and later by John Lubbock in 1867 in the Brahmaputra valley of upper Assam. Extensive explorations and excavations have yielded immense amount of material about the Neolithic cultures of India. One thing to note about Indian Neolithic is that Neolithic cultures in India did not develop everywhere at the same time, nor did they end simultaneously. There were regional variations too. For example, there is no evidence of plant cultivation in the north-east despite the sites yielding 'Neolithic' tools. In the Kashmir valley the Neolithic cultures do not seem to have evolved out of the preceding Mesolithic cultures like everywhere else. In terms of plant crops, wheat and barley were predominant in Mehrgarh in Baluchistan, but rice was important in the central region around Prayagraj. The south Indian Neolithic is unique in the sense that it has ash mounds, with the evidence of millet cultivation. Thus, each of these regional Neolithic traditions seem to have been conditioned by local, ecological conditions and need to be studied separately. Broadly, however, we can say that the Neolithic of India was a farming and pastoralism based sedentary/semi-sedentary village culture.

Now let us discuss the clusters of Neolithic sites that are found in different parts of India. The Neolithic sites of the Indian subcontinent or South Asia are divided into various regional cultural groups. They are:

1) North-western region – The areas of Afghanistan and Pakistan.
2) Northern region – The region of Kashmir.
3) The Vindhyan hills and the Ganga valley – Vindhyan region of Prayagraj, Mirzapur and the Belan river valley.
4) Mid-Eastern Ganga valley region – The area of northern part of Bihar.
5) Central Eastern region – Including the Chotta Nagpur area with Odisha and Bengal region.
6) North-eastern region – Assam and the sub-Himalayan region.
7) Southern region – Peninsular India, mainly Andhra, Karnataka and parts of Tamil Nadu.

We will be presenting the main features of these regional traditions individually.

4.4.1 The Neolithic Culture of North-Western Region

The Neolithic culture of north-western region covers those areas which are now in Pakistan and Afghanistan. This region has evidence for early domestication of wheat and barley, and animals. It is one of the earliest regions of the world which has given combined evidence of plant and animal domestication. On the peripheries of Central Asia, this region has the natural occurrence of bread wheat and spelt wheat. *Aegilops tauschii*, one of the ancestral species of wheat, had its natural habitat in this region. Thus, the practice of cultivation might have emerged in this region independently.

The caves in northern Afghanistan have evidence of Mesolithic hunter-gatherers exploiting wild sheep, cattle and goat. Wheat cultivation began in Central Asia

and its adjoining regions. The Kacchi plains are located between the dry mountains and the Indus plains. The smaller valleys of this region with alluvial deposits were ideal for cultivation and animal domestication. The important Neolithic sites of this region are Mehrgarh in the Kacchi plains, Kili Gul Muhammad in the Quetta valley, Rana Ghundai in the Loralai valley and Anjira in the Surab valley. All these Neolithic sites are in Pakistan. Other important sites are Gunlan, Rehman Dheri, Tarakai Qila and Sarai Khola.

Case Study: Mehrgarh

Mehrgarh, on the bank of river Bolan, is an important site located in the Kacchi plains, about 150 km from Quetta in Baluchistan. This site covers an area of 200 ha. The site has given evidence of pre-ceramic Neolithic up to the Harappan culture.

The first cultural period of the Neolithic culture at Mehrgarh dates from *c.* 7000 to 5500 BCE. It is a pre-pottery Neolithic culture. The semi-nomadic, pastoral groups began to settle at this place. These people used polished stone axes, querns, microliths and bone tools. They did not use pottery, but cultivated six-row barley, emmer and einkorn wheat, and domesticated sheep, goat and cattle. Seeds of plum, dates and *jujube* were found at this site suggesting gathering activities of the inhabitants. Bones of *gazelle*, swamp deer, antelopes indicate that they hunted wild animals too.

They built their houses with mud and buried the dead in between the houses. Goat bones have been found near the bodies in the burials. They have also placed ornaments. The houses measured 2 m. × 1.8 m in size. Grinding stones, blades have been found. Blades show evidence of bitumen suggesting the use of hafting. Handmade female figurines have been recovered from the site. The houses appear like storage compartments and perhaps they were used for storing grains. They used ornaments of sea shell, limestone, turquoise beads, lapis lazuli and sandstone. Turquoise from Nishapur mines of Iran, Lapis Lazuli from Badakshan of Afghanistan, and shell from the coastal regions suggest long distance interactions of the Neolithic people of Mehrgarh. The period II at Mehrgarh dates from *c.* 6500 BCE to 4500 BCE and the Period III, from *c.* 4800 BCE to 3500 BCE. In Period II, from *c.* 5000 BCE, evidence for the cultivation of cotton and grapes was observed. This period has evidence of pottery. Terracotta figurines, glazed faience beads have been found. More frequency of the use of ornaments was noticed among the women. Evidence of long-distance trade is noticed as revealed by the use of Lapis Lazuli. Houses increased in size; ivory working is also evidenced. Sickle appeared in this period. Period III has wheel made pottery with paintings depicting human and floral designs. More burials were noticed in this period indicating population increase. Traces of copper working are also found in Period III. The village was abandoned after the rise of Mature phase of the Indus civilization.

Significance of Mehrgarh – Periods I to III provide the earliest evidence of the transition from hunting-gathering to animal domestication and agriculture. Barley seems to have been the most important crop. Significantly, wild, transitional and cultivated varieties of barley have been found. This makes this region of north Baluchistan, a natural habitat zone of wild barley, and Mehrgarh a part of the nuclear area of barley

domestication. Wheat has also been found. Though the evidence regarding this region being a natural habitat for wild wheat is uncertain, the fact remains that Mehrgarh people were domesticating wheat. There is plenty of evidence for the transition to animal domestication at the site. The lower levels of Period I were dominated by the remains of wild animals. The decreasing size of cattle and sheep bones through the levels indicates that their domestication was under way. By the end of Period I, bones of wild animals decreased, while bones of domesticated cattle, sheep and goat increased. Cattle predominate. In the succeeding period III, sheep, goat bones predominate.

The site of Mehrgarh is important because it has given the earliest and most comprehensive evidence of domestication of cattle, sheep, goat, wheat and barley; the first combined evidence of its kind in the world.

Kili Gul Muhammed

The Neolithic site of Kili Gul Muhammed is in the Quetta valley of Pakistan. This site has revealed three cultural periods. The Neolithic occupation at this site dates from *c.* 5500 BCE to 4500 BCE, later than that of Mehrgarh. People built wattle-and-daub and mud houses. They domesticated cattle, sheep and goat. Basket marked pottery and black-on-red ware pottery, with painted designs similar to Mehrgarh, occur in the Periods II and III of this site. This site has evidence of nomadic pastoralism. Microliths have been recovered.

4.4.2 The Neolithic Culture of Northern Region (Kashmir)

The sites of northern Neolithic culture are found in Kashmir. The Neolithic culture of Kashmir region was contemporary with the Harappan civilization. Recent research has placed the beginning of the Neolithic culture in this region around the late fourth millennium BCE. Excavations at Burzahom, Gufkral and Kanispur have revealed significant materials belonging to Neolithic culture. Burzahom and Gufkral have also revealed Megalithic and Early Historic phases.

Burzahom

Burzahom was an important site of this culture. Two cultural periods have been identified at this site. In the Neolithic period, people lived in pit-houses (subterranean dwellings, about 4 m in depth) in order to escape from the extreme cold weather of the Kashmir region. The pit houses were oval in shape, and they were broader at the bottom and narrower on the top. Post-holes which were used for constructing a thatched roof structure were found around the pit houses. The houses were accessed by ladders and steps. They produced coarse handmade pottery. Storage pits were found near the dwellings. They used tools such as stone axes, chisels, adzes, pounders, mace-heads, points and picks. They used scrapers for working on animal skins. Awls were used for stitching the skins into clothes to adjust to the cold weather. Harpoons, needles and arrow heads made of bones were used. A stone depicting engraved image of a hunting scene, the sun and a dog has been found from this site.

These people were involved in hunting, fishing and also limited agriculture. Evidence of grain storage has been found. A perforated harvester with decoration has been found at Burzahom. Period II has agate and carnelian beads; Kot Diji phase pottery depicting a horned deity is an important find. A burial at this site

produced a wild dog bone and antler horn. Seeds of wheat (*Triticum sp.*), barley (*Hordeum vulgare*), common pea (*Pisum arvense L.*) and lentil (*Lens culinaris*) have been recovered from the excavations. The domesticated animals include cattle, sheep, goat, pig, dog and fowl. Wild animal bones of red deer, Kashmir stag, ibex, bear and wolf suggest that they hunted wild animals too for their subsistence.

Gufkral

The site of Gufkral has evidence of three cultural phases. Settlement started at this site around 3000 BCE and evidence of pit dwellings has been found. Bones of sheep, goat, deer, ibex, wolf and bear suggest their dependence on pastoralism and hunting. Polished stone tools, querns, horn tools and steatite beads reveal information about the material culture. The site is dated to *c*.1300 BCE.

The Neolithic culture of Kashmir is considered to have had connections with the East-Asian Neolithic culture of the Yang Shao phase. Stone knife-harvesters with perforation recorded at Kashmir valley have parallels in north and central China with Yang Shao and Lung Shan complexes and the Jomon phase of Japan and Korea. The Kashmir Neolithic has some distinctive characteristics such as pit dwellings, use of 'harvesters', bone tools made on antlers, dog burials and the use of red ochre on dead bodies.

4.4.3 The Neolithic Culture of the Vindhyan Hills, the Belan and the Ganga River Valleys

The Belan river valley witnessed one of the earliest Neolithic occupations in India. The river Belan flows at the northern edge of the Vindhyan and the Kaimur hills. This river is a tributary of the river Tons which joins the Ganga near Prayagaraj (UP). This region has a rich environment, since it falls in the monsoon area. It has several wild animals and wild rice species. Transition from food gathering to food production is noticed in this region. The sites of Chopani-Mando, Koldihwa, Lehuradeva and Mahagara in the Ganga valley are the important excavated sites of this region. These sites have given evidence of wattle-and-daub houses, post-holes, microlithic tools, querns, pestles and underfired hand-made ceramics. The principal ware is 'corded ware' or cord impressed ware which includes bowls and storage jars. The people were engaged in farming and animal husbandry. Bones of cattle, sheep, goat, deer, turtles and fish have also been recovered. At Mahagara, evidence of domesticated rice has been found. This is in the form of carbonised grains as well as rice husks embedded in the pottery.

Evidence of rice cultivation from Neolithic sites of Central India is mired in controversy. While some scholars believe that this evidence from Koldihwa puts it at par with China in terms of chronology, others believe that the dates need to be re-examined. One possibility that has been suggested is that rice cultivation may have travelled along with the migrants from South China to Central India. Some, however, argue that Central India was an independent centre of rice cultivation.

4.4.4 The Neolithic Culture of Mid-Eastern Ganga Valley Region

Chirand (on the banks of the river Ghagra in district Saran), Chechar, Senuwar (near Sasaram) and Taradip have produced evidence for settlements dating from

about 2000 BCE. Senuwar has produced evidence of cultivated rice, barley, field pea (*Pisum sativum*), lentil and millets. The site of Chirand has produced evidence of mud floors, pottery, microliths, polished stone axes and terracotta human figurines. Several bones tools have also been noticed at these sites. People at Chirand lived in circular and semicircular houses with wattle-and-daub walls; post holes have been found. Plant remains of rice, wheat, barley, *moong* and lentil have been recovered from this site. Perhaps double cropping system existed. Terracotta figurines of humped bull, birds, and snakes, bangles and beads and slingstones have been unearthed.

The Neolithic sites of this region also have evidence for transition to the Chalcolithic as revealed at Sohagaura, Imlidih Khurd, Chirand, Chechar and Senuwar. The introduction of copper seems to have occurred around the second half of the third millennium BCE in this region.

4.4.5 The Neolithic Culture of Central-Eastern Region

The Neolithic sites are found at many places in the region of West Bengal and Odisha. Birbhanpur is an important Neolithic site of this region. The eastern Indian Neolithic sites have evidence of shouldered axes, pointed-butt celts, and chisels. Kuchai, Golbaisasan and Sankarjang are some of the important Neolithic sites of this region. These cultures show similarities with the Neolithic complexes of east and Southeast Asia. Mace heads, pounders, coarse red ware, cord impressed pottery, floors, postholes and bones have been found. At Pandu Rajar Dhibi Neolithic culture had emerged from Mesolithic context.

4.4.6 The Neolithic Culture of North-Eastern India

The hills of Assam and North Chachar, the Garo and Naga hills are high rainfall areas. Marakdola, Daojali Hading and Sarutaru are the Neolithic sites of Assam region. Shouldered celts, ground axes of round type and cord-impressed or paddle-impressed pottery with quartz inclusions are the common finds.

In north-eastern India, the Neolithic culture belongs to a slightly later period. This region today has evidence for shifting cultivation, cultivation of yams and taro, building stone and wooden memorials for the dead, and the presence of Austro-Asiatic languages. This region shows cultural affinities with Southeast Asia.

4.4.7 The Neolithic Culture of South India

The Neolithic cultures of South India are found mainly in Andhra Pradesh, Karnataka and north-western part of Tamil Nadu. Kupgal, Budihal, Kodekal, Kudatini, Sanganakallu, T.Narsipur, and Brahmagiri are the Neolithic sites of South India. In Tamil Nadu the site of Paiyyampalli has produced evidence of Neolithic culture. More than 200 Neolithic sites have been identified as part of the Neolithic complex of South India. The sites are found near the granite hills with water sources. They occur in the river valleys of Godavari, Krishna, Penneru, Tungabhadra and Kaveri. Sanganakallu, Kodekal, Budihal, Tekkalakota, Brahmagiri, Maski, T.Narsipur, Piklihal, Watkal, Hemmige and Hallur in Karnataka; Utnur, Pallavoy, Nagarjunakonda, Ramapuram and Veerapuram in Andhra Pradesh; and Paiyyampalli in Tamil Nadu are the notable sites.

Some of the early Neolithic sites have ash mounds. Cow dung was periodically burnt for a long period of time. These sites might have acted as cattle pens and the cow dung was burnt periodically for various reasons. Utnur and Pallvoy in Andhra Pradesh; Kodekal, Kupgal and Budihal in Karnataka are the ash mound sites. Since the cow dung was burnt repeatedly, the ash is vitrified and looks like volcanic ash. Soft ash and decomposed cow dung layers are also noticed. The evidence of habitation in the form of houses and burials are found around the ash mounds. They buried the dead people within the houses.

Ashmounds

Neolithic culture of South India is the most extensive one among the regional Neolithic traditions of India. It covers Karnataka, Andhra Pradesh and Tamil Nadu. Ashmounds are a distinctive feature, albeit a problematic one, of some of the South Indian Neolithic sites. A well over a hundred sites have been discovered in southern Deccan constituting the districts of Bellary, Raichur, Bijapur, Gulbarga and Belgaum in north Karnataka; Kurnool, Mahbubnagar, Anantpur districts of Rayalseema region of Andhra Pradesh.

Detailed investigations conducted at the ash mound site of Budihal in north Karnataka, by Professor K. Paddayya, have revealed that ash mounds were functioning as regular, Neolithic pastoral settlements. They are an example of adaptation of a food producing community to semi-arid climatic conditions, hilly terrain, not suitable for plant cultivation. Several interpretations have been put forward regarding the ash deposits. Early workers based their interpretations on the basis of local legends which considered these ash mounds as cremation grounds of *Rakshasas* or demons of the *Mahabharata*. Second view regarded them as geological deposits of *kankar* formations or volcanic ash. Another set of views saw them as physical remains of mass *sati* conducted by women in the medieval period who had lost their husbands in the wars between the Vijayanagara kingdom and Delhi Sultanate. Another view regards them as ash deposits associated with industrial activity like iron smelting, gold smelting, brick making, pottery making etc. It was Robert Bruce Foote who noticed the closeness of these ash mounds to the Neolithic settlements and called them Neolithic in character. F. R. Allchin's excavations at Utnur in Mehbubnagar district in the 1960s confirmed Foote's conclusions. He, however, believed them to be cow pens, and distinguished them from human settlement sites. His conclusions are based on the evidence of cattle hoof impressions and stockade preparations found at Utnur. He argued that ash mounds represent several stages in the making. In each formation, the surface was levelled, stockades were made, cattle were penned, cow dung was collected and burnt leading to the formation of ash deposits. The dung was not accidentally burnt as claimed by Foote but intentionally burnt. This was part of the Neolithic fire cult meant to promote the fertility of the cattle herds. Extensive horizontal excavations at the site of Budihal led Professor K. Paddayya to question Allchin's differentiation of the ash mounds from settlement sites. He felt that they, indeed, were cattle penning areas, though ash mounds should be regarded as full-fledged pastoral settlements having cultic significance. His investigations revealed that ash mound sites like Budihal were larger and more conspicuous then the smaller sites in the region. Budihal was probably functioning as a congregational hub similar to the present day cattle fairs. Significant socio-cultural transactions may have taken place here. The

extensive chert workshop found at the site indicates that chert artefacts, blades could have been exchanged or traded on these occasions.

Source: K. Paddayya, 2000-01. The Problem of Ashmounds of Southern Deccan in Light of Budihal Excations, Karnataka. *Bulletin of The Deccan College Post-Graduate and Research Institute* 60/61: 189-225.

The Neolithic people of South India had an agro-pastoral economy. They had domesticated cattle (*Bos indicus*), buffalo (*Bubalus bubalis*), sheep (*Ovis aries*), goat (*Capra hircus aegagrus*), pig (*Sus scrofa cristatus*), dog (*Canis familiaris*) and fowls (*Gallus sp.*). Cattle were their main source of economy. Terracotta figurines of cattle have also been found.

The Neolithic people cultivated plants mainly millets, pulses and legumes. Evidence of the cultivation of finger millet (*Eleusine coracana*), kodo millet (*Paspalum scrobiculatum*), horse gram (*Dolichos biflorus*), green gram (*Vigna radiata*), black gram (*Phaseolus mungo*) and hyacinth bean (*Dolichos lablab*) is present. Barley (*Hordeum vulgare*) and rice (*Oryza sativa*) have been found at very few sites.

The Neolithic people mainly used polished stone axes and lithic blades, choppers, knives, scrapers and other tools. Copper and bronze artefacts are found in the later context. They used querns for grinding grains, built thatched houses, and used handmade grey and brown burnished ware. A few of the pottery had painted designs, but they are very limited in number.

The site of Budihal (Hunsgi valley) is in Karnataka. This ash mound settlement site has given evidence of child burial, cattle butchering place, houses and human burials. Evidence of water harvesting has been identified.

4.5 SOCIAL ORGANIZATION AND BELIEF SYSTEM

The evidence for understanding the social organization of the Neolithic people is very limited. People began to live in sedentary and semi sedentary settlements. They perhaps had tribe level social organization. The idea of land and plant ownership emerged, as they domesticated plants and animals. The presence of small houses may suggest nuclear families. The ceramics and beads suggest the improvement in material cultural production. People had demarcated certain territories. The dead were buried within the houses and sometimes, animal burials are also found. They suggest the adoption of certain rituals and the worship of the dead. They may have worshipped the natural forces. Evidence of art objects is limited; the terracotta images of cattle suggest some fertility cult.

Check Your Progress Exercise 2

1) Mark '×' for wrong answer and √ for the right answer:

   i) Burzahom has evidence of pit houses. ( )

   ii) Mehrgarh may have been one of the independent centres of animal and plant domestication in the world. ( )

   iii) Kashmir Neolithic sites show possible evidence of contacts with the Neolithic sites of West Asia and China. ( )

iv) The South Indian Neolithic sites have evidence of rock bruising nearby and human burials within the houses. ( )

v) The shouldered celts do not show resemblance with Southeast Asian materials. ( )

vi) The north-eastern Indian Neolithic sites show no evidence of contacts with Southeast Asia. ( )

vii) Cord marked pottery is a characteristic feature of the Vindhyan-Ganga valley Neolithic sites and also evidence of rice is not found here. ( )

2) Fill in the blanks

i) The Neolithic cultures saw..... (gradual, sudden) development of agriculture and pastoralism in a few parts of the world.

ii) The earliest evidence of plant domestication is found in .... (Epi-Palaeolithic/Chalcolithic) cultures in the region around ..... (Israel, Pakistan).

iii) One school of thought, which is against the adaptive notion of culture, argues that settled life in south-west Asia began in the pre-Neolithic period, indicating ..... (cultural factors/environmental) playing a major role in the Neolithic developments.

iv) Catal Huyuk and Jarmo are, respectively, in ..... (Turkey/Iran) and ..... (Iraq/Syria).

4.6 SUMMARY

This Unit has presented details about the definition, nature and characteristics of the Neolithic cultures. The transition from hunting-gathering to food-producing, in fact, brought about important changes in social and cultural development. The foundations for the earliest Indian villages were laid in the Neolithic times.

India witnessed the Neolithic cultures in different parts. The Neolithic culture of the north-western part of the Indian subcontinent at Mehrgarh has produced the earliest evidence of plant and animal domestication. Kashmir Neolithic sites have evidence of pit dwellings. These sites show contacts with the Harappan sites and the cultures of East Asia and West Asia. The Belan valley Neolithic sites have cord-marked pottery and produced evidence for transition from hunting-gathering to agriculture. The sites of Vindhyan hills and the mid-Ganga valley are slightly later in date and show evidence of plant and animal domestication. The sites of eastern and north-Eastern India show traits of shouldered axes often noticed in Southeast Asia. Cord marked and paddle impressed potteries are found at these sites. The Neolithic sites of South India have ash mounds in the early stages and evidence of plant and animal domestication is found.

4.7 KEY WORDS

AMSL : Above Mean Sea Level.

Anthropomorphic : Human related.

Epi-Palaeolithic : It refers to the end of the Palaeolithic period.

Holocene : The recent age that began around 11,500 years BP.

Hunting-gathering : A mode of subsistence. Hunting, collecting and trapping of animals, birds, molluscs and fish. Gathering of plant foods such as fruits, nuts, leaves, stems and roots.

Nomadic : Moving from place to place.

OSL dating : Optically Stimulated Luminescence Dating.

Pleistocene : The first epoch of the Quaternary period. It succeeded the Pliocene and preceded the Holocene age.

Proto-Neolithic : The cultures that preceded the Neolithic culture.

Sedentism : It refers to the permanent settlement of people at one place or year-long residence at a specific location.

Semi-sedentary : Migrant communities living at a site in a specific season of the year.

Shifting Cultivation : Burning of forest and undertaking cultivation at the plot. The area of cultivation is shifted to the next plot, after one season of cultivation.

Wattle-and-Daub : A type of house walls in which the wooden frames are covered with mud. The traces of these walls are found sometimes when these walls are burnt accidentally, leaving behind the impression of the wooden frames. The Neolithic sites have produced remains of such houses.

Ice Age : The Ice Age began about 2.6 million years ago when the Pleistocene age began. It ended with the Pleistocene age.

Zoomorphic : Animal related.

4.8 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1) See Sub-section 4.3.1

2) See Sub-section 4.3.2

Check Your Progress Exercise 2

3) i) (✓) ii) (✓) iii) (✓) iv) (✓)
   v) (×) vi) (×) vii) (✓)

4) i) gradual, ii) Epi-Palaeolithic, Israel,
   iii) cultural factors, iv) Turkey, Iraq

4.9 SUGGESTED READINGS

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UNIT 5 HARAPPAN CIVILIZATION-I*

Structure

5.0 OBJECTIVES

In this unit, we are going to understand the formative phase of the Harappan civilization. We will be focusing on the various cultures that laid the foundation of the civilization and study the debate about the factors that led to the rise of the Mature Harappan phase. In this unit, you will be able to learn about:

- the discovery of Harappan civilization;
- the chief characteristics of the Early Harappan culture;
- the extent and the geographical spread of the Harappan civilization;
- the debate among archaeologists on the origins of the Harappan civilization;
- the various regional early Harappan cultures; and
- the transition from the Early Harappan to Mature Harappan.

5.1 INTRODUCTION

In this unit, we are going to study the origin of India's first urban culture: the Indus or Harappan civilization. In the previous units, you have studied the emergence of the first farming cultures in various parts of the subcontinent, particularly, in Baluchistan and Uttar Pradesh. From being hunter-gatherers, humans became food producers, a development encapsulated in the term 'Neolithic Revolution'. The next important stage in the human development is the emergence of cities or urbanization. These settlements were distinct from villages, and were centers of powers or secondary economic activities like trade, crafts and arts. They mark the rise of a more sophisticated civilization and way of living.

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5.2 DISCOVERY

It was in 1924 that John Marshall announced to the world, the existence of an ancient civilization in the Indus valley. In retrospect, he was not the first to come across material associated with this civilization. The first person to come across Harappa was Charles Masson who identified it as an ancient city called Sangala, belonging to the time of Alexander. In 1853-1854, Alexander Cunningham visited the ruins and mistakenly concluded that the site was a Buddhist monastery. He also came across seals associated with this civilization but believed them to be of a foreign origin as they depict a bull without a hump, hence not Indian.

The true significance of the ruins had to await the excavations in the early 20th century. Harappa was excavated in 1920 by Daya Ram Sahni and Mohenjo-daro by Rakhaldas Banerjee in 1921. The similarities in antiquities discovered from the two sites was recognized by Sir John Marshall, who then in 1924 announced to the world, the discovery of the oldest civilization in the subcontinent.

5.3 NOMENCLATURE AND EXTENT

Nomenclature

In the initial years of its discovery, the civilization was known as the Indus Valley civilization. This is because most of sites like Mohenjodaro, Harappa, Allahadino, Chanhudaro were discovered in the Indus valley. After 1947, Indian archaeologists discovered several sites on the Indian side: Lothal, Surkotada, and Dholavira in Gujarat, Kalibangan in Rajasthan; and Banawali and Rakhigarhi in Haryana. Some sites like Shortughai were discovered in Afghanistan. The biggest concentration of sites, nearly 174, was discovered in Cholistan area of Pakistan. These were located near the old bed of the river Ghaggar-Hakra. As many of the new sites were found outside the ambit of Indus valley, it was no longer appropriate to call it Indus Valley civilization. Many scholars prefer the term Harappan civilization, following the archaeological convention of naming a culture where it was first discovered.

Extent

Indus settlements are spread over a wide area which includes India's north-west and Pakistan. Geographically the civilization included more than the Indus zone. It was a combination of riverine lowlands that stretched towards the east and southeast into UP and Rajasthan, the highland and coastal areas of Baluchistan, and the coastal belt of Gujarat (Map 5.1).

The lower part of the Indus valley is noted for being one of the richest areas, and is represented by Sindh. Here is located Mohenjodaro in the Larkana district. In upper Sindh are located the Sukkur-Rohri hills which saw many settlements of workmen in and around the chert quarries. Chert was the principal material which the Harappans used for making blades. Baluchistan in the west encapsulates a varied terrain which was exploited during this time. Makran coast saw the establishment of sites like Sutkagendor and Sotka-Koh which played an important role in the sea trade between the Indus civilization and Persian Gulf and Mesopotamia. These points led to further routes to the interior. In other parts of Baluchistan, settlements were located on arterial routes and agriculturally viable areas. Through these routes Baluchistan's copper, lead, semi precious stones (lapis lazuli, turquoise) could be transported to the settlements in the Indus valley.

Fig. 5.1 Map: Early Harappan Sites. Source: EHI-02, Block 2.

The northern most site of the Indus civilization is Shortughai in northeast Afghanistan. It was through Shortughai that access could be gained to lapis lazuli of Badakshan, and to tin and gold resources of Central Asia. To the northeast of Sind, in the Punjab province of Pakistan, the most prominent site is Harappa located on the banks of the river Ravi. The desert tract of Cholistan region through which river Hakra flows boasts of the largest concentration of Indus settlements. Geographically this tract connects the Indus plains with Rajasthan which has vast copper deposits. Further east is the Indo-Gangetic divide, a transitional area between the Indus and the Ganga river systems. It constitutes the states of Punjab, Haryana, Delhi and Ghaggar river course in Rajasthan. This region is known for sites like Banawali, Rakhigarhi (as large as Harappa), Kalibangan. Some sites are also located in the most northerly position around Saharanpur in the Ganga-Yamuna Doab. Finally the large area between the Rann of Kutch and Gulf of Cambay saw the emergence of Dholavira in the Rann. Further east in the Saurashtra region was located the important settlement of Lothal. The southern-most extension of this civilization was the site of Bhagatrav on the estuary of the Kim river.

5.4 CHRONOLOGY

The civilization can be dated between 3300 BCE to 1300 BCE with the help of Radio carbon dating. However the dates of individual sites may vary. This entire timeline can be divided into three phases, depending upon the level of

development. These are Early Harappan, Mature Harappan and Late Harappan. A Transitional stage can be placed between the Early Harappan and Mature Harappan. The characteristic of each phase and its rough chronology are summarized below:

Phase	Dates	Important sites	Features
Early Harappan or Regionalization	3300-2600BCE	Harappa, Kot Diji, Amri	Fortification, grid planning, development of incipient trade network and craft specialization
Transitional Phase		Kunal, Dholavira,Harappa	Increasing level of craftspecialization, organized irrigation system, partly standardized repertoire of pottery designs and forms
Mature Harappan or Integration	2600-1800BCE	Mohenjo-daro, Harappa, Kalibangan, Dholavira.	Full scale urbanization, emergence of writing and uniformity in artefacts, full fledged trade
Late Harappan or Localization	Post 1800-1500/ 1300BCE	Cemetery H at Harappa, Siswal, Rojdi, Rangpur.	Decline, and abandonment of some sites, rise of pastoral mode.

5.5 DEBATE ABOUT THE ORIGINS

In the early years of discovery, when Early Harappan level was not yet discovered, there was much debate on whether the civilization had indigenous origins or it developed under foreign influence. Foreign influence was seen in terms of diffusion of ideas or migration of people. The civilization of Mesopotamia was seen as the most favoured candidate for the source of diffusion or migration.

The earliest understanding on the origins was put forward by John Marshall (1931). In his report on Mohenjo-daro, he speculated the civilization to be indigenous in origin, but he couldn't put forward any data to support it. Gordon Childe echoed this opinion. He believed that Harappan civilization was a result of years of patient effort which was characterized by a perfect adjustment of human life to its environment. It shared so many similarities with early India that it was, according to him, 'specifically Indian'. N. G. Majumdar's work at Amri as part of his explorations in Sind in the late 1920s provided credence to Marshall and Childe's theory. At Amri he found an archaeological level with distinctive pottery stratified below its Harappan level and noted the similar stratigraphical profile at a number of Sindh sites. He argued on this basis that the Amri pottery should be looked upon as representing an earlier phase of the Chalcolithic cultures than that represented by Harappa and Mohenjodaro.

Others, on the other hand, strongly believed in the role of Mesopotamia in bringing an urban phase to the subcontinent. E.H. Mackay for instance, argued that the civilization was a result of interaction between invaders from Uruk culture of Mesopotamia and the indigenous people. The opinion in the 1950's was split on

the same lines. Stuart Piggot, supporting Marshall, argued that the civilization had an indigenous origin, although the actual process was not yet understood. M. Wheeler ruled out this possibility. He, too considered the influence of Mesopotamia to be critical, but did not argue for any migration of people. Instead, he argued that since Mesopotamia was first to urbanize, it acted as a model. One of traditions borrowed was that mud-brick architecture and the citadels built with it at Harappa and Mohenjodaro hint at 'alien domination.' Whereas Wheeler's understanding was that the Indus civilization borrowed ideas from Mesopotamia, D.H. Gordon argued that there was an actual migration of people from Mesopotamia. The only issue for him was determining the actual route of migration: land or sea? A similar opinion was given by Heine-Geldern and S.N. Kramer.

From the 1960's we see a gradual change of opinion. F. A. Khan of Pakistan excavated Kot Diji in Sindh in 1955 and 1957. Here he found a fortified citadel complex below the Harappan level of the site. Typical Harappan shapes and motifs such as dish-on-stand, *pipal* leaves, fish scales and terracotta cakes indicated that this earlier level foreshadowed in some important details the later Indus development. Excavations at Amri (1959-62) by J.M. Casal lent credence to Khan's opinion. Excavations began at Kalibangan in 1960s and continued for a decade and unearthed important finds. It brought to light a fortified and planned pre-Indus settlement with an extensive range of pottery. In the same vein, A. Ghosh working in the Ghaggar valley came across at the site of Sothi a pottery which matched the pottery from pre-Indus Kalibangan. He further noted that the pottery at pre-Indus Kalibangan had parallels with corresponding levels at Kot Diji, Harappa and several Baluchistan sites. All these observations led him to postulate for a Sothi substratum of the Indus civilization. He regarded Sothi culture as 'proto Harappan'. F. R. Allchin and Bridget Allchin also argued for the possibility of Harappan civilization being derived from Pre-Harappan culture of the Indus valley itself. In the Indian archaeological literature of the 1960s the frequently used term to describe the discoveries at Kot Diji, Kalibangan and other sites was 'pre-Harappan', a term of mere stratigraphic connotation.

In an unpublished work in 1970-71, M. R. Mughal used the term 'early Harappan' to denote the following characteristics: permanent occupation and elaborate architecture; emergence of administrative centres as suggested by fortification walls; common knowledge and use of copper, steatite and lapis lazuli; uniformity of bone and stone tools; specialized crafts suggesting possible occupational and class stratification; use of wheeled carts; and finally the distribution of identical forms of pottery over a wide area including Baluchistan. He called this phase a phase of 'incipient urbanization' which subsequently crystallized into homogeneous and standardized artefactual remains of the Mature phase. The two key factors which led to this development were intensification of trade with Mesopotamia and increase of population. His study went beyond pottery, with focus on features like architecture, level of craft development, technology, and trade network. He concluded that despite differences, the contemporary cultures shared certain similarities in architecture, artefacts, technology.

From the 1970's the existence of Early Harappan level preceding the Mature phase has become increasingly acceptable. But archaeologists have still not been able to pinpoint the actual factors that led the transition to the Mature Harappan phase.

Ghosh (1965) believed that genius dictators who wanted to compete with Sumerians were behind the transition. The problem with this theory, as rightly pointed out by D.K. Chakrabarti, is that dictators are generally found in more complex class-based societies. The Early Harappan level was not at this level of complexity. Also, it is difficult for any individual to impose this change if the society is not ready for it. Instead, Chakrabarti emphasizes on two new developments that distinguish the Mature Harappan level from the Early Harappan level: (i) increase in the craft specialization, as seen in the increase in the quantity of goods produced, which in turn must be linked with intensification of copper metallurgy (ii) the development of organized irrigation system. These two developments must have created the preconditions for a more complex society which characterizes the Mature Harappan phase. Irfan Habib (2002) has noted the remarkable uniformity in the Mature phase. This could mean that political unification was achieved through warfare. In fact, nearly $3/5^{th}$ of early Harappan sites were abandoned before being reoccupied. Some sites like Amri, Kot Diji, Nausharo, and Gumla were destroyed in fire. It is difficult to ascertain which of the four cultures attempted conquest. Since Harappa was continuously occupied without any destruction, Habib concluded that it must have been the Kot Diji culture that tried to unite all the diverse early Harappan cultures. The only weakness of this argument is that only a small number of weapons have been discovered at the sites. This does not support warfare. Some scholars believe that destruction by fire was a kind of ritual purification done at the sites. It led to rebuilding of the settlements based on a common ideology that laid guidelines on street orientation, water supply and uniformity of materials. Thus, the development of a common ideology might have encouraged the transition to the Mature Harappan.

Check Your Progress Exercise 1

1) Read the following statements and mark right (✓) or wrong (×).

   i) The first person to come across Harappa was Charles Masson who identified it as an ancient city called Sangala, belonging to the time of Alexander ( )

   ii) People of the Harappan civilization were aware of the use of iron( )

   iii) It is called the Harappan civilization because Harappa was the first site to be discovered ( )

   iv) We have evidence that the forefathers of the Harappans were living in big cities ( )

2) Write ten lines on the geographical features of the Harappan civilization.

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5.6 WHAT IS EARLY HARAPPAN?

The emergence of Mature Harappan phase was not a sudden development. Its roots lie in the changes seen in the several Neolithic-Chalcolithic cultures in the area that took to food production. You have read in detail about the sites and cultures in the previous units: Mehrgarh in Baluchistan, Gumla and Rehman Dheri in Khyber-Pakhtunkhwa, and Hakra culture in Cholistan, Punjab, and Haryana. From about 3300 BCE, many of these sites start seeing new developments that were precursor to the Mature Harappan phase. Architecturally, there is the emergence of fortifications, division of settlements into two parts with some evidence of grid planning, use of bricks with the Harappan ratio of 1:2:4, craft production in beads, shell bangles, stone tools and even copper metallurgy. Further, we also see the development of a trade network. In some sites, we see the usage of writing for communication, with many signs resembling the Mature Harappan script. In agriculture, the cropping pattern resembles the one found in the Mature phase.

While many of the sites share these developments, we see important differences in the ware, and slips of the potteries. The difference might also extend to motifs, although there are some shared motifs which also continue into the Mature phase. We also do not see any standardization of crafts, an important feature of the Mature phase. Thus, Jim Shaffer has also called the Early Harappan phase as the regionalization era. The ceramic differences have led archaeologists to classify Early Harappan cultures into four: Kot Diji, Sothi-Siswal, Amri-Nal and Damb Sadaat (Possehl, 2002).

5.6.1 Early Harappan Cultures

Around 3200 BCE, there was a transformation taking place which can be seen in the appearance of four cultures, together covering the entire Indus basin and parts of Baluchistan. These are identified by their distinctive potteries and named after the type site.

1) The Kot Dijian culture occupying the largest area embracing NWFP, Pakistan's Punjab and northern Sindh.
2) Sothi-Siswal culture with settlements in northern Rajasthan, Indian Punjab and Haryana.
3) The Amri-Nal culture found in Baluchistan and Central and Southern Sindh with extensions in Gujarat.
4) The Damb Sadaat phase of Central Baluchistan.

Kot Diji

Kot Diji culture is the most significant of the Early Harappan cultures. It was first identified at Kot Diji in Sindh in 1955 by F.A. Khan. The site was occupied during both Early Harappan and Mature Harappan phase. The Early Harappan level dates back to 3300 BCE. In this phase itself, the site was fortified with the settlement being divided into an upper citadel and a lower town. The fortification was made of mud bricks and stone and was provided with bastions. From inside the settlement were recovered microlithic tools and objects like beads, terracotta toys, cattle figurines, beads, bangles and pottery. The pottery consists of 'well-fired red and buff wares' with common motifs like horned deity, *pipal* leaves and fish scales executed in black (Figure 5.1).

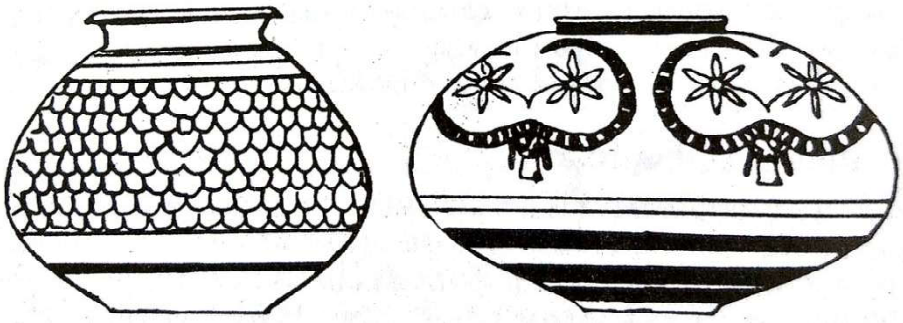

Fig 5.1: Left: Early Indus Pottery: Kot Diji. Right: Early Indus Pottery: Kalibangan

Source: EHI-02, Block 2

The Kot Diji culture was subsequently recovered from several other sites. A major concentration of sites is in Cholistan, while a few sites were discovered from Punjab. In Baluchistan, sites like Mehrgarh and Nausharo have shown some influence of Kot Diji, but their material culture closely resembles Damb Sadaat. According to Possehl, nearly 111 sites of the culture are known with average size of the site being 6.31 ha.

Cholistan: The Kot Diji culture here succeeded the Hakra phase. Most of the sites are located near the dried river bed of Ghaggar-Hakra. 40 sites were reported with an area ranging between 0.1 ha. to 30 ha. The largest of these is Jalwali (22.5 ha.) and Gamanwala (27.3 ha.). Unfortunately, none of these are excavated. However certain important developments could be observed. First, the trend is towards increased sedentarization. This phase sees very less camp sites when compared to the Hakra phase. Second, we see an increase in craft specialization as nearly 14 sites have given evidence of pottery kilns.

The other important sites of Kot Diji culture are:

1) Tarakai Qila, Lewan, Islam Chowki and Lake Largai in the Bannu Basin of Khyber Pakhtunkhwa.

2) Jhandi Babar, Maru I, Maru II, Ghade Umar Khan, Rehman Dheri and Gumla in Gomal Valley.

3) Rehman Dheri, an important site which has yielded two significant finds: ivory seal and the presence of graffiti on the pottery. These indicate the beginning of a system of communication, and perhaps political control.

4) Saraikhola in Potwar Plateau. The period II is Kot Diji. This level coincides with the introduction of the wheel-made pottery. Other material remains discovered are copper, bangles made of terracotta and shell, stone tools, terracotta cattle figurines and toy carts, and stone beads.

Punjab: The sites where Early Harappan culture is featured is Jalilpur and Harappa. We shall only discuss Harappa. The Kot Diji culture dates back to 2800-2600 BCE succeeding the Neolithic Ravi-Hakra phase. The site is about 20 ha. in size surrounded by a mud-brick wall. The settlement is divided into two sectors, with streets oriented north-south, east-west. The houses are built of bricks in the ratio 1:2:4. In crafts, the site is an important production centre for beads as

the presence of stone drills and flakes of raw material has shown. Popular materials include carnelian, agate, jasper, lapis lazuli, amazonite with beads of agate being used for exchange. Other goods discovered include stone and bone tools, spindle-whorls and ornaments like necklaces and bangles made of shell and terracotta. Among other designs the motifs on the pottery included designs like fish scales, *pipal* leaf, which also occurs in the Mature period. The most important discovery was an early form of Indus script inscribed on a pottery and square seal. Besides, we also discovered a cubical limestone weight.

Sothi-Siswal Culture

The two sites- Sothi in Rajasthan and Siswal in Haryana were excavated in 1955 and 1970 respectively. Both of them revealed identical pottery. In the 1960's, A. Ghosh noted its similarities with the Kot Diji pottery. There are similarities in the motifs but certain important differences exist in shape and surface features. As a result, the Sothi-Siswal culture has been identified as a subculture of Kot-Diji. According to Possehl, around 165 sites of this culture have been identified. These are mainly located in Rajasthan and Haryana with some unexcavated sites like Rohira and Mahorana located in Indian Punjab.

Rajasthan: In Rajasthan, Kalibangan is the most important site (Figure 5.2). This site has given two phases of occupation. Phase I has Sothi-Siswal phase. In this phase, the site was surrounded by a fortification wall. Within the wall, mud-brick houses with a central courtyard were discovered. These were provided with ovens, and lime plastered storage pits. The other antiquities discovered include copper objects, microliths, bangles of terracotta, shell, beads of gold and semi-precious stones. On some of the sherds, some of the signs resemble the Indus script. Towards the south, was discovered a cultivated field with furrow marks. This entire phase is dated to 2900/2800 BCE.

Haryana: Haryana is rich in Sothi-Siswal culture. Besides Siswal, this phase has been observed at Kunal, Balu, Banawali, Rakhigarhi, and Bhirrana. Almost all these sites have given evidence for mud brick structures in the early Harappan level. At Kunal, the proportion was 1:2:3 and 1:2:4 and Bhiranna 1:2:3. In Kunal, the early Harappan site is about 1 ha. in area. Here we have two early Harappan cultures IB and IC. Period IB is classified as Early Harappan due to the presence of Sothi ware in it. But this period did not have any brick made structures. Instead the people lived in wattle-and-daub structures. The brick houses made their appearance in the next phase IC with bricks being in proportion of 1:2:4 or 1:2:3. The houses were also provided with refuse bins and soakage jars. An important discovery in this phase was the collection of silver and gold ornaments in a red ware pot. Also discovered were a large hoard of lapis lazuli micro-beads, 92 agate beads, and faience and carnelian beads. Some data for metallurgy also exists as we discovered a terracotta crucible with molten metal. Other important finds include fish-hooks, arrowheads and spearheads, and flat axes. Rakhigarhi has given data for planned settlement and mud brick structures. Other important artefacts include uninscribed seals, pottery with graffiti, terracotta wheels, carts, rattles, bull figurines, chert blades, weights, a bone point and a muller. The site has given abundant data for cattle bones, which implies importance of animal husbandry.

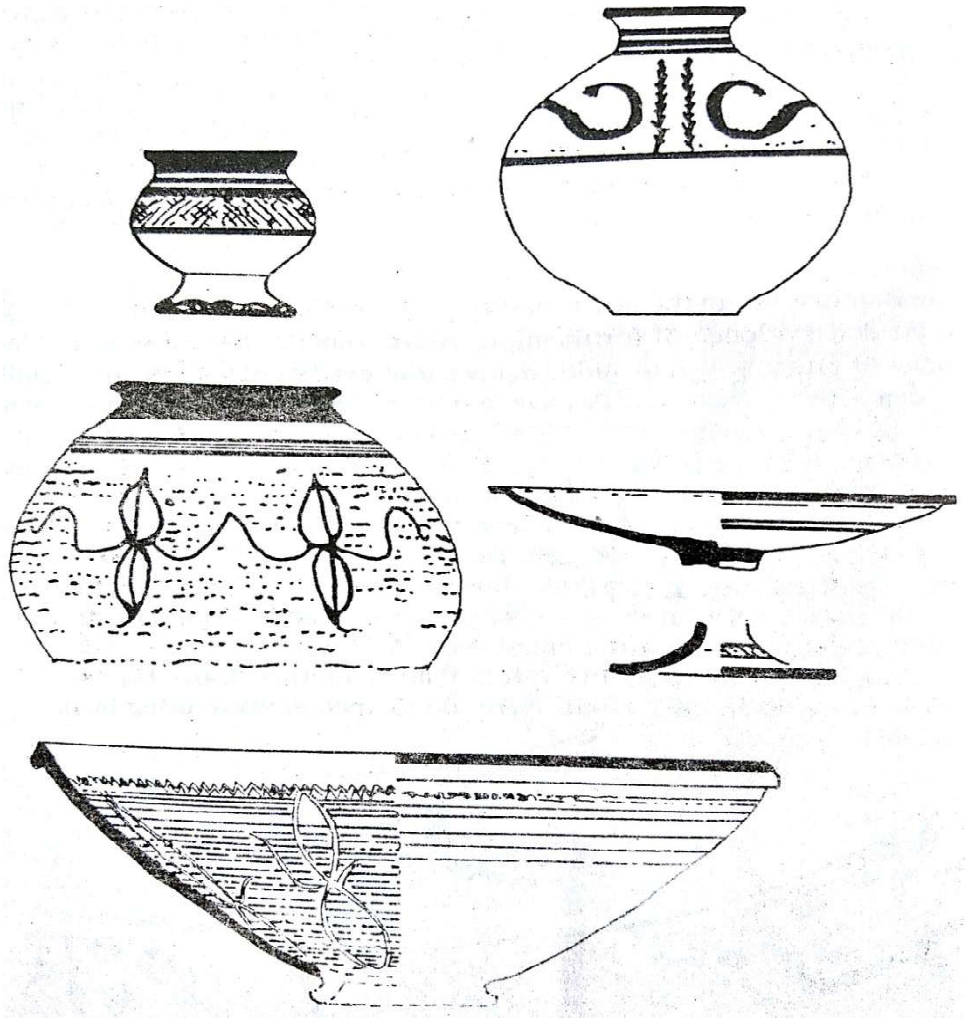

Fig. 5.2: Early Indus Pottery: Kalibangan. Source: EHI-02, Block 2.

Amri-Nal Culture

Another culture designated as Early Harappan is the Amri-Nal culture. The sites of this culture have given a mixed assemblage of two potteries – one discovered at Amri and another at Nal. The sites are found in both Sindh and Baluchistan, with sites in Baluchistan having more of Nal pottery, and sites in Sindh giving us more Amri pottery. The Amri pottery may be described as pottery fired to light red or buff colour and then covered with red or buff slip and painted black. The motifs consist of geometric and curvilinear designs filled with red colour. The Nal pottery, on the other hand, was fired to buff or pink colour, then covered with light buff or red slip, enriching its colour. The designs on the pottery were filled with different colours, making it one of the most beautiful potteries discovered from the subcontinent. The people of this culture seem essentially to be pastoralists migrating to the highlands in summer, and to Indus valley in winter (Possehl, 2003). Nearly 164 sites of the culture are known, with most of them being small camps averaging 3.67 ha. Some of the settlements were also fortified.

Gujarat: A Special Case

Gujarat is considered to be a special case as we have discovered both Amri-Nal and Kot Diji pottery from some of the sites. The Early Harappan phase was excavated at Padri, Kuntasi and Dholavira**.** At Dholavira, two periods I and II have been considered Early Harappan by Bisht. The site right from the start was fortified with the wall made of rubble stones set with mud mortar. The structures

within the fortification made use of bricks in the proportion 4:2:1. In the economic sphere, we can identify copper metallurgy, lithic stone industry, shell-working and pottery. The pottery discovered here shows an affinity to both Amri-Nal sites and Kot Diji. Period II saw further expansion of the site and reinforcing of the fortification with the building of a 2.8 m thick mud-brick wall. The Early Harappan at Padri is dated to 3300-2600 BCE. The site was 3 ha. in area. The inhabitants lived in mud-brick houses and were familiar with copper metallurgy. We also have evidence for pottery kilns and bead production. The pottery discovered here is quite distinct from the other Early Harappan sites. It is a handmade ware having thick dark red slip. The upper level of the period had potsherds inscribed with the Indus script.

Damb Sadaat

On the basis of pottery, Damb Sadaat can be recognized as another sub-culture of Early Harappa. The pottery of this culture too is influenced by Kot Diji, but it has so many distinct plant, animal and geometric motifs that makes it stand out on its own. Possehl (2003) has called it as a localized form of Early Harappan culture**.** Around 37 sites of this culture are known with an average size of 2.64 ha. The largest site is Quetta Miri (around 23 ha.) followed by Mundigak (18.75 ha.). Other important sites are Damb Sadaat and Faiz Mohammad. In addition, it seems that the cultures at the site of Mehrgarh and Nausharo were also influenced by this subculture.

5.6.2 Some Important Observations

Despite the different pottery traditions, many features are found in common in these regional cultures. The first important development is a significant advance in agriculture. The ox was converted into a drought animal. The pre Indus levels at Harappa have given evidence of cart ruts which can be studied along with the cart wheels, cart frames and bulls in terracotta found at Jalilpur (western Panjab) in the Kot Diji period. Besides, at Kalibangan, archaeologists have discovered a field with straight furrow marks which lie below the Mature Harappan debris, leading excavators to assign it to the Early Indus period.

The developments in agriculture led to more yield per head of population. The Early Indus period has given evidence of the cultivation of wheat and barley. For example, at sites like Rehman Dheri and Kalibangan, rabi or winter crops were grown. Sorghum millet (jowar), a kharif or summer crop has been reported from the Sothi-Siswal site of Rohira (Indian Punjab). Ovens including tandoors have been found at Kalibangan in the Early Indus phase, taking the history of bread making in India back to nearly 5000 years.

Wheel made pottery dominates at all the Early Harappan levels. The fine blades at Kot Diji were sourced from the flint of Sukkur Rohri hills in northern Sindh. Copper smelting progressed considerably as shown by the remains of a workshop at Nal (Baluchistan). Both Nal and Kalibangan have yielded beads of steatite and shell which could have reached all the three places through long distance trade.

When one compares the settlements of the preceding Hakra phase, the settlements of Early Indus were larger in size and number and of a more permanent nature. Though the use of burnt brick was rare, mud brick structures are plenty. The

estimated size of Harappa in its Kot Diji levels is 40 ha. Same is the case with Rakhigarhi, a Sothi-Siswal site in Haryana. Possehl estimates that based on the size of 291 early Indus sites, the average size was 4.5 ha, with 34 settlements exceeding 10 ha. Though urban revolution had not reached the majority of the sites but some settlements have attained the status of small townships. Though some seals have been found from Early Indus levels at Kunal and Nausharo, seal findings are limited. Similarly, palaces, or monumental buildings are rare. Defensive walls, a work of rulers have been found at Kot Diji, Kalibangan, Kohtras Buthi (western Sindh) and Rehman Dheri. However one gets the impression of small principalities rather than large powerful states. Funerary rites were practiced at many sites. At the sites of Nal and Damb Buthi in Baluchistan and Surkotada and Nagwada in Gujarat (Amri-Nal culture), we find fractional burials being practiced. At Kot Diji sites of Periano Ghundai and Mughal Ghundai (Northeastern Baluchistan) the dead were first cremated and thereafter their bones were collected and put into pots to be buried.

Concluding Thoughts*:* From the above discussion it is clear that a few distinct archaeological components constituted the Early Harappan phase. These are the following:

1) Fortified settlements and planned arrangement of houses made of standardized bricks.

2) Evidence of grid planning and the division of the settlement in two fortified sectors

3) Partly standardized repertoire of pottery shapes and designs some of which were carried into the Mature Harappan phase. These occur in varying proportion at all the relevant archaeological sites

4) Miscellaneous artefacts like terracotta cakes and painted motifs like fish scale, *pipal* leaf, which continued in the Mature Harappan phase.

5) Several signs of the Mature Harappan script at a few places.

6) Presence of button seals with geometric motifs at some sites.

7) Consolidation and expansion of agricultural life based on the plough all over the Indus Hakra plains. This was combined with the establishment of basic crop types which continued to be cultivated in the Mature Harappan phase.

8) Wide transport and exchange of raw materials.

9) Ritual beliefs embodied in a wide range of terracotta cattle and female figurines.

10) A diversified and well established metallurgical tradition which continued uninterrupted in the succeeding phase.

11) Presence of Indus weights in this level.

12) Finally the unvarying stratigraphical precedence of this level over the Mature Harappan one.

The occurrence of all these features decisively proves that a widely occurring Early Harappan level is the first phase of the Harappan civilization. D.K. Chakrabarti (1999) believes that a common cultural ethos spread with this phase all over the Indus-Hakra plains and adapted itself to the local contexts.

Transitional Phase (2600 BCE)

As mentioned earlier in the unit, we can demarcate three basic stratigraphical profiles of the Indus civilization. These are: Early, Mature and Late forms. Though evidence of transition from the Early Harappan to Mature Harappan is available at some sites, there is an element of abruptness in the appearance of the Mature form especially in terms of writing, multiplicity of art forms and general scale of things. A civilization goes through qualitative changes; however the precise span and process of this transformation needs to be worked out. It is indeed without doubt that a transformation was taking place in the sequence related to the emergence of the Indus civilization. This is clear at three sites: Harappa, Kunal and Dholavira.

At **Harappa**, in the upper levels of the Early Harappan phase the transition to Mature phase is indicated by the construction of the habitation area along a grid of north-south and east-west streets.

At **Kunal**, period IC shows even mud bricks in the classic Harappan ratio of 1:2:4, a well planned drainage system based on soakage pits in the streets, square though uninscribed and knobbed steatite and shell seals, typical classic Harappan copper arrow heads, a number of semi-precious stone beads and gold and silver ornaments containing silver tiaras, armlets and disc shaped beads associated with the Indus civilisation.

At **Dholavira**, Period IV represents classic Indus civilization. However by stage IIIB the basic layout of the settlement was achieved with Harappan elements such as stamp seals, script, weights and many typical pottery forms as well as decorative motifs.

How can the transition be explained? The variable identified by scholars is the increasing level of craft specialization in the transitional phase. This is evidenced in the manufacture of pottery on a commercial scale, the presence of bangles of *Turbinella pyrum* type of shell, blades made of chert sourced from the Sukkur-Rohri hills of upper Sindh in the relevant context at Harappa. Copper metallurgy also developed along the Aravallis (the locale of this tradition comprises the copper bearing areas of north east Rajasthan and its extensions in the Narnaul area of Haryana and tin bearing hills of Tosam area of Haryana). Another variable is emergence of organized irrigation system at this point. Settlements increased in number in the Indus-Hakra plain. This could have been possible only with expansion of an irrigation network. This along with craft specialization and socio-institutional changes, no matter how uncertain, point to the emergence of the Mature phase. For instance, the gold and silver jewellery obtained from Kunal suggests the emergence of an elite class and how at Dholavira multiple divisions of urban space crystallized, point to the possibility that water management and irrigation may have been a socially controlled affair. Thus the emergence of a controlling or ruling nucleus on this basis becomes clear.

Source: D K Chakrabarti, 1999.

Check Your Progress Exercise 2

1) Discuss any one Early Harappan culture

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2) Discuss some of the characteristics of the Transitional Phase.

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3) Discuss the debate about the origins of the Indus civilization.

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5.7 SUMMARY

In this unit, we have studied four contemporary archaeological cultures that constitute the Early Harappan level. These cultures saw several important developments that foreshadowed the Mature Harappan phase. Just like the Mature phase, we have the existence of fortified towns, a wide agricultural base, craft production, and rise in trade. These cultures, however, lack the uniformity visible in the Mature phase. Also, there is no usage of writing. The presence of these cultures undoubtedly proves that the origin of the civilization is indigenous, although the actual factors that led to the growth of the Mature phase still elude us. With these points in mind, let's turn our attention to the Mature Harappan phase which is the focus of the next unit.

5.8 KEY WORDS

Artefacts : A thing made by human hand.

Chronology : The method of computing time.

Citadel : The fortress in a city.

Diffusion : This theory argues that any new technology or idea must have originated from one area, and then from there it spread to the rest of the world.

Excavation : The act of digging an ancient site.

Fabric of a pottery : The clay used for making a pottery.

Granary : The storehouse for grains.

Grid planning : A kind of town planning in which the streets intersect at 90º or right angles.

Motifs : Decoration on a pottery.

Nomadism : A way of life associated with cattle herders and

foraging communities. People do not stay at one place but keep moving from one place to another.

Pastoral Nomadism : A social organization associated with cattle and sheep-goat herders who move from one place to another in search for pastures.

Radio Carbon Dating : It is also called C-14 Dating. It is a method of measuring radio-active isotope C-14 in a dead organic sample which disappears at a known and calculable rate.

Slips : A mixture of water and clay applied to decorate the pottery.

Terracotta : A composition of clay and sand used for making statues. It is baked in fire and is reddish brown in colour.

Ware : Set of potteries sharing either fabric or decoration or both.

5.9 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1) i) ✓ (ii) × (iii) ✓ (iv) ×

2) See Section 5.3

Check Your Progress Exercise 2

1) See Section 5.6.1 and Sub sections

2) See the text in Box at the end

3) See section 5.5

5.10 SUGGESTED READINGS

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UNIT 6 HARAPPAN CIVILIZATION-II*

Structure

6.0 OBJECTIVES

In this unit, we will study the Mature Harappan phase, its meaning, its chief characteristics and the main sites associated with it. After studying this unit, you will be able to learn about the:

- Mature Harappan phase and how it is different from the Early Harappan phase;
- main sites, their architectural features, town planning, drainage;
- Indus script and problems in its decipherment; and
- society, crafts, trade, religion and economy of the Indus civilization.

6.1 INTRODUCTION

The sites associated with this civilization are found in large parts of Pakistan and north-west India, with one site located in Afghanistan. The total number of sites discovered till 2008 were 1022, out of which 616 are in India and 414 in Pakistan. The area covered by the civilization is estimated to be between 680,000 and

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800,000 sq. kms. This makes it the largest civilization in the ancient world, covering almost 12 times the combined area of Egypt and Mesopotamia. We know that the roots of the civilization lie in the Early Harappan cultures, which you have already studied in detail in the previous unit. What you need to understand is that Mature Harappan, despite sharing many characteristics with the Early Harappan phase, is significantly different. Instead of several different cultures in the Mature Phase, we see the existence of one uniform civilization spread across this huge area. One can argue that such standardization and uniformity over such a vast area is completely unparalleled in the ancient world.

The name 'Harappan' or 'Indus civilization' refers to the urban, literate culture of the 3rd and early 2nd millennium BCE. In the initial years of its discovery, many archaeologists attempted to compare this civilization with the Mesopotamian civilization. Off late, archaeologists have become aware that the Indus civilization needs to be studied independently rather than through a Mesopotamian lens.

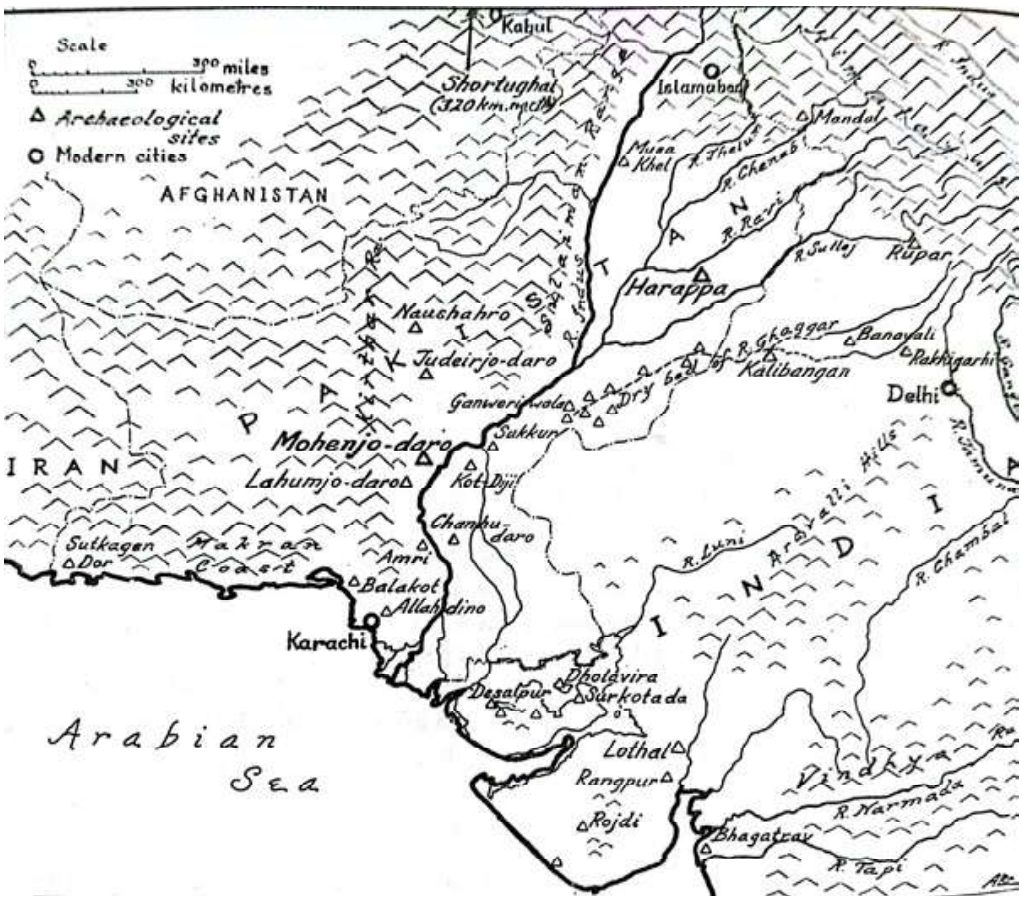
It is important to mention here that when the unqualified term, Harappan civilization, is mentioned the reference is to the urban phase. Now let's discuss the chief characteristics of Mature Harappan phase.

6.2 DEFINING THE MATURE HARAPPAN

Harappan culture was a long complex process of evolution. It consists of three phases: Early, Mature and Late. The Early phase has been dealt with in the previous unit. Here in this unit we will be studying the Mature phase.

One of the distinguishing features of the Mature Harappan phase is its artefacts and technology (Possehl 2003). We have a new pottery (style, clay fabrics, vessel forms and painting), even though there may be some continuities with the earlier ones. There is an increasing use of metal and introduction of bronze. The new metallic objects include pots, pans, copper tablets, blades, fishhooks, razor and others. The use of baked bricks is very common and there is now standardization across the sites. There is expansion of bead making, widespread use of carnelian, and development of a complex technology to drill the hard stones. Along with this, there is usage of writing at all the sites. More than 4000 Indus inscriptions have been found. Sites like Harappa and Mohenjodaro; Ganweriwala in Cholistan; Dholavira in Kutch; and Rakhigarhi in Haryana were large settlements and symbolize aggregates of population.

The chief characteristic of this phase is its uniformity. The sites whether located in Baluchistan, Punjab or even Gujarat show usage of uniform kind of artefacts. All the buildings were made using bricks in proportion of 1:2:4. A common system of weights and measures was in use. The motifs on the seals display one kind of iconography. Nearly all sites can boast of unprecedented civic amenities such as roomy houses with bathrooms, serviceable roads, elaborate system of drainage, water supply system. Despite the impressive unity, some sites display some differences in town planning, and religious beliefs. Also, some of the regions were less integrated. Possehl (2003) estimates the transition to have occurred between 2600-2500 BCE, but we still don't understand the factors that led to this change.



Map: Sites of the Harappan Civilization. Source: EHI-02, Block 2.

6.3 SETTLEMENT PATTERNS

Urban and rural settlements were functionally connected in important ways and indicate some kind of administrative organization. The fact that the Indus civilization was urban does not automatically indicate that all its settlements, big and small, were urban in character. The cities depended on villages for food and perhaps also labour. Cities produced various kinds of goods which reached the far-flung villages as a result of brisk rural-urban interaction. This led to uniformity in artefactual material throughout the Indus civilization.

Different kinds of settlements existed. The largest settlements include Mohenjodaro (over 200 ha.), Harappa (over 150 ha.), Ganweriwala (over 81.5 ha.), Rakhigarhi (over 80 ha.), Dholavira (about 100 ha.). Recently during explorations some very large sites in Punjab have come to light. These are Dhalewan (150 ha.) in Mansa district and Gurni Kalan I (144 ha.), Hasanpur II (about 100 ha.), Lakhmirwala (225 ha.), Baglian Da Theh (100 ha.) in Bhatinda district. So far, no excavations have been carried out in these Panjab sites. The second rung of settlements is of moderate size ranging from 10-50 ha. These are Judeirjodano and Kalibangan. Then there are even smaller sites falling in the range of 5-10 ha. such as Amri, Lothal, Chanhudaro and Rojdi. Settlements smaller than 5 ha. include Allahdino, Surkotada, Nageshwar, Nausharo, Ghazishah.

Some kind of planning was common to all the settlements. There was no strict correlation between the size of the settlement and the level of planning. For example, the small site of Lothal shows a high degree of planning, and Kalibangan, though twice the size does not.

6.4 MAJOR SITES

In this section, we will study some of the major sites of this civilization. As noted earlier, one of the main features of this phase is its sheer uniformity in culture. The buildings, whether located in Sindh, Punjab or Rajasthan were built using bricks in the ratio 1:2:4. The dimensions for the house bricks were 7×14×28 cms. and for the city wall it was 10×20×40 cms. In town planning, most settlements were divided into two areas: a citadel and a lower town. Both were fortified or surrounded by a wall. In the citadel mound, we often encountered important buildings and an occasional residence. Most of the residences and workshops were mostly located in the lower town. In some sites like Harappa, Mohenjodaro and Kalibangan, the citadel was often constructed at a distance from the lower town, while at other sites like Banawali, Lothal and Dholavira, both were located within the same compound. One of the most impressive characteristics of the Harappan settlements is their drainage system.

6.4.1 Mohenjodaro in Sindh

One of the first sites to be excavated, Mohenjodaro is located to the west of the river Indus. It is about 200 ha. The site consists of two mounds — a western citadel mound and eastern lower town. Both the mounds are built on an artificial platform and were fortified. Its population has been estimated to be around 20,000 to 40,000 people.

Some of the major buildings were discovered here. The most famous is a structure known as the Great Bath (Figure 6.1)

It is about 14.5 m. in length, 7 m. in breadth and nearly 2.4 m. in depth. It is made of bricks set in gypsum mortar. The floor and the steps leading to it were made water-proof through an application of a layer of bitumen. Further, the floor had a small inlet located on the south-west that was connected to a drain. This was

Fig. 6.1: Great Bath in the Foreground at Mohenjodaro. Credit: M.Imran at English Wikipedia.

Source: Wikimedia Commons. https://en.wikipedia.org/wiki/Great_Bath,_Mohenjo-daro#/media/File:Mohenjodaro_Sindh.jpeg

done to regulate the water. The bath might have been surrounded by a set of brick pillars on all the sides except the south where the entrance may have been located. The purpose of the bath is debatable. Many consider it to have been used for ritual ablution, while others argue it to be a public pool.

Some of the structures adjacent to the Great Bath, have been identified as 'Priest's College' and 'Granary'. One of the square structures on the southern side of the mound has been interpreted as an 'Assembly Hall' where the inhabitants gathered to discuss important matters.

In general, the houses on the eastern mound consist of a courtyard surrounded by rooms. The number of rooms varied. The thickness of the walls indicates that some were two storied. The smaller houses could have also doubled as workshops. Most houses had toilets which were well connected with the city's drainage system. For water, the town had around 700 wells with many houses having one private well.

6.4.2 Harappa in Punjab (Pakistan)

The site is located near a dried river bed of river Ravi. The citadel area was surrounded by a thick mud-brick wall. On its north, we have another mound on which Wheeler identified a 'Granary' (Figure 6.2). There are two blocks separated by a central aisle. Each block had around 5 rooms. In the walls that survive today we have some gaps. This according, to Wheeler, was to provide air circulation to keep the grains fresh. A similar technique was adopted in the granaries of the Roman civilization. A series of burnt-brick circular platforms were discovered to the south of this complex. They resemble closely the threshing floors found in India today. Burnt wheat and husked barley have been found in the crevices. This could further confirm that the structure was a granary.

6.4.3 Kalibangan in Rajasthan

The site is located to the west of now dried up river Ghaggar. The site also consists of a higher citadel mound on the west, and a lower residential mound on

Fig. 6.2: View of Granary and Great Hall at Mound F in Harappa. Credit: Mohammad Bin Naveed. Source: Wikimedia Commons. https://commons.wikimedia.org/wiki/File:Another_view_of_Granary_and_Great_Hall_on_Mound_F.JPG

the east. Inside, the citadel is divided into a northern and southern sector by a wall. In the northern sector, we have recovered few houses and a road. The southern sector has no residential structure. Instead we have a series of mud brick platforms. One of the platforms has a few altars containing ash, charcoal, and clay stele. Next to it, we have a few bathing platforms connected with a corbelled drain. The whole complex may indicate practice of a sacrificial cult, although it has been disputed.

Fire altars were also discovered in the residences of the eastern lower mound. Some houses were perhaps double storied. As noted earlier, they had oblong fire altars. Were these hearths or sacrificial pits cannot be ascertained.

6.4.4 Banawali in Haryana

The site is located to the right of the dried river Rangoi. It is rectangular in plan covering an area of nine ha. The entire unit was fortified. Unlike the sites surveyed so far, the citadel and the lower town here are located within the same complex. The residences were provided with bathing pavements, wells and drains. A multi-roomed house which gave evidence for seals, and weights has been identified as a 'merchant's house'.

6.4.5 Dholavira in Gujarat

It is located on an island in the Rann of Kutch. In many ways, this site in quite unique among the Harappan settlements, and its location perhaps affected several aspects of its town planning. For instance, instead of bricks, the buildings here are mainly built using the locally available sandstone. The site is also known for the arrangements it has made to conserve water (Figure 6.3).

Fig. 6.3: Dholavira. Stepwell Steps to Reach the Water Level in Artificially Constructed Reservoir. Credit: Lalit Gajjer.

Source: Wikimedia Commons. https://en.wikipedia.org/wiki/Dholavira#/media/File: DHOLAVIRA_ SITE_(24).jpg

The town plan is unique. Instead of two, it has three areas: citadel-bailey complex, middle town and a lower town located within the same fortified complex. One of the rooms in the castle-bailey area has a fallen signboard (Figure 6.4). The letters are made of white gypsum and are inscribed on a wooden board.

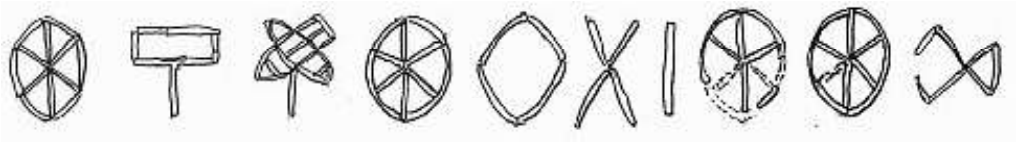


Fig. 6.4: 'Signboard' with Indus Characters discovered near the northern gate of the citadel at Dholavira. Credit: Siyajkak

Source: Wikimedia Commons. https://en.wikipedia.org/wiki/Indus_Valley_Civilisation#/media/File:The_'Ten_Indus_Scripts'_discovered_near_the_northern_gateway_of_the_Dholavira_ citadel.jpg

In the Lower town in order to meet its water requirement, the inhabitants here have cut water reservoirs into the bedrock. Around 16 such reservoirs (Figure 6.5) were discovered.

Fig. 6.5: Dholavira. Credit: Rama's Arrow.

Source: Wikimedia Commons. https://en.wikipedia.org/wiki/Dholavira#/media/File:Dholavira1. JPG

6.4.6 Lothal in Gujarat

This was a port town of the Harappans. It is located in a low deltaic area in the Saurashtra peninsula. It is believed that the sea once was much closer to the site.

Fig. 6.6: Lothal Dockyard. Source: Wikimedia Commons.

https://commons.wikimedia.org/wiki/File:Lothal_dock.jpg

Both the citadel and the lower town are located within the same complex. From one of the buildings, in the citadel, around 65 terracotta sealings having impressions of reed, woven fiber, cords, and matting have been recovered. This implies that it was a warehouse or place where the goods were packed. This shows active involvement of the site in trade. This is confirmed by another structure located to the east of the town: the dockyard (Figure 6.6). It too is enclosed by a burnt brick wall. It is provided with two inlets and spill channels to regulate the water. An additional platform on the west was constructed to help with the unloading of goods.

Check Your Progress Exercise 1

1) Match the following sites with their present-day geographical location:

i)	Harappa	a)	Rajasthan
ii)	Kalibangan	b)	Sindh (Pakistan)
iii)	Mohenjodaro	c)	Makran Coast (Pakistan-Iran Border)
iv)	Sutkagen-Dor	d)	West Punjab (Pakistan)

2) Discuss two main sites of the Harappan civilization.

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3) How would you ascertain that the structure found at Lothal is a dockyard?

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6.5 ECONOMY

The Harappan civilization occupied a varied landscape. It included alluvial plains, mountains, plateau, and sea coasts. The area was rich enough to generate surplus which was crucial for urbanization. The main sources which are used to reconstruct the subsistence patterns of the Indus people are plant remains, animal bones, artefacts, motifs on seals and pottery and analogies with modern practices.

One aspect which differentiates the Mature Harappan phase from the Early Harappan is the scale of economic activity. Rita Wright sees this period as being characterized by intensification, diversification and specialization. Intensification means an increase in the output of both agriculture and crafts. Diversification means a development of a wide variety of products. These two developments encouraged specialization which means individuals devoting time to one economic activity. For instance, in Early Harappan period a farmer might also be a part-time pastoralist or part-time weaver. An increase in agriculture might mean

that the farmer was now devoting more time and energy to farming, leaving other activities to other full-time specialists. Another development was the adoption of better technology in several crafts. Let us survey the various economic spheres.

Agriculture

The cultivation of rabi or winter crops seems to be the dominant practice in Harappan civilization. The main rabi crops were wheat, barley, pea, chickpea, sesame, mustard and lentil. The increase in the cultivation of kharif or summer crops like millet and rice distinguishes this phase from Early Harappan. Millet has been recovered from several sites: Lothal, Rojdi, Kuntasi, Surkotada, and Shikarpur. Outside Gujarat, it was also cultivated in Harappa, Kunal, and Sanghol. Rice is known from Harappa, Kunal, Kalibangan, Lothal, and Rangpur.

Among the implements used, we know of a terracotta plough model from Banawali and Bahawalpur. A ploughed field has been revealed at Kalibangan. Though it is of the Early Harappan, we can safely surmise that the practice continued in later periods too. The Kalibangan field consisted of two sets of furrows crossing each other at right angles, thus forming a grid pattern. It is likely that two crops were raised in the same field. Today, mustard and horse gram are grown together in different set of furrows.

Copper sickles have been recovered from several sites. The irrigation techniques must have varied from region to region. In Sind, it is possible that floods in the Indus were exploited for irrigation purposes, a technique known as sheet-flooding. This might explain the building of the cities on artificial platforms, to protect them from floods. The existence of canal irrigation has been proposed for Ghaggar-Hakra, though it is controversial. The arid regions of Baluchistan might have used *gabarbund*-like structures. These structures are used in present-day area to capture or slow down the water coming down the hills. In Gujarat, we have already mentioned the existence of reservoirs at sites like Dholavira.

Domestic animals found at the sites include cattle, buffalo, sheep, goat, pig, camel, elephant, dog, cat, ass and others. Cattle meat was preferred. Cattle and buffaloes must have supported agriculture and served as draught animals. The presence of horse is considered controversial.

Hunting of animals was an important activity. Animals hunted include wild buffalo, deer, wild pig, ass, jackal, rodents and hare. The site of Harappa has given evidence of marine cat fish. Hence it seems that coastal communities may have traded in dried fish in inland settlements. Food gathering was also practiced. Wild rice was consumed in the Ganga Yamuna Doab. At Surkotada, most of the seeds recovered are wild which include wild nuts, grasses and weeds.

The Harappans thus depended on multiple subsistence strategies. This was done to mitigate risk. If crops failed, they could depend upon hunting.

Crafts

A wide range of crafts were practiced in the Mature period. We see intensification in terms of technological processes from the preceding period. Besides the range of raw materials used expanded. It seems from the archaeological record that the Harappans used more copper than bronze.

Pottery

The most common pottery occurring in the Harappan cities is the red ware. It is a wheel-made and baked pottery. There are both plain and decorated pots. Ochre was used to produce red colour for paintings and black was manufactured by combining dark reddish-brown iron oxide with black manganese. The paintings or motifs were executed in black and were mostly geometric or naturalistic designs. These include *pipal* leaves, fish-scales and intersecting circles which have continued from the Early Harappan phase. The pottery occurs in shapes like dish-on-stand, vase with S-profile, small vessel with knobbed decoration, goblet with pointed foot. Pottery kilns have been found at Mohenjodaro, Harappa, Nausharo and Chanhudaro

Metallurgy

Harappans were aware of copper, gold and silver metallurgy. Copper was widely used, and it occurs in the form of weapons, agricultural tools like sickles, carpentry tools like chisels; ornaments like kohl-sticks, finger-rings, bangles, earrings and miscellaneous objects like fish-hooks, needles, scale-pans and figurines (Figure 6.7). At times, it was alloyed with tin, arsenic, lead, nickel and zinc in various combinations. A study of these objects shows that Harappans knew techniques like forging, sinking, hot and cold welding. The objects were mostly polished. Sixteen copper furnaces have been found at Lothal. A large amount of copper oxide was discovered in a brick lined pit at Mohenjodaro.

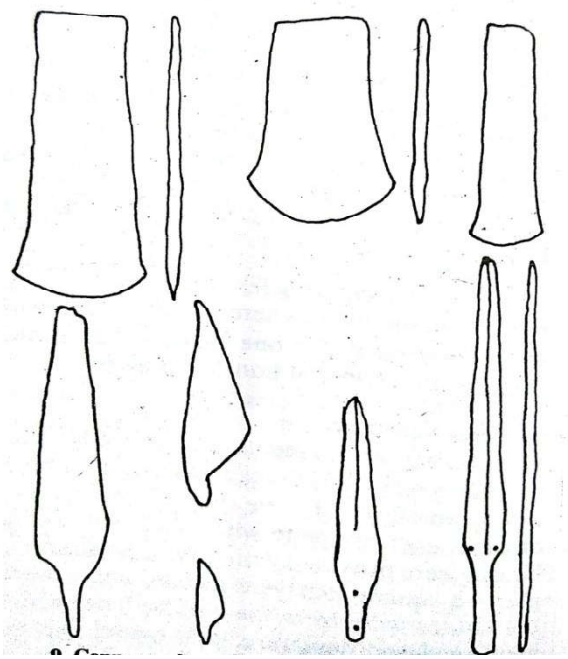

Fig.6.7: Copper and Bronze Toole Used by the Harappans.

Source: EHI-02, Block 2, Unit 6, p. 24

Besides these, Harappans also manufactured ornaments of gold and silver. It has been recovered from Mohenjodaro, Harappa, and Allahdino.

Bead-Making

The most famous artefacts manufactured by Harappans were their beads. Some like carnelian beads were an important export item. The beads of both precious metals, and semi-precious stones like agate, jasper, steatite, and lapis lazuli were

known. We also have beads of terracotta, bone, faience and shell. The most significant development in the Mature phase was the use of hard drill to perforate hard semi-precious stones (Possehl 2003). Other steps included flaking and sawing the material to required shape and heating them to impart them the correct colour. The famous 36 long-barrel cylinder carnelian beads might have taken 480 days to produce. This means that this craft was a highly specialized activity. Bead-making workshops have been recovered from Mohenjodaro and Chanhudaro, and Lothal.

Faience

Several faience objects in the form of beads, bangles, earrings, figurines have been recovered from several Harappan sites. It is an artificial material manufactured from quartz. Given the complexity of its technology, Kenoyer has called it an elite item.

Stoneware Bangles

This, according to Kenoyer, is another elite item that may be closely associated with the ruling class. For some reasons, these bangles have been only discovered from the sites in Pakistan: Mohenjodaro, Harappa, Balakot and Nausharo. The term stoneware is misleading as objects were not made of stone but terracotta. The finely levigated clay was fired at very high temperatures 1050-1100º C. The reason of them being considered elite is because of the nature of their find. They have been recovered in special canisters sealed with Indus seal. Unlike other bangles, they have inscriptions or potter's mark inscribed on them. Dilip. K. Chakrabarti (2006), however, points out that the occurrence of these in small sites like Nausharo may not support this claim of being associated with the elite.

Lithic Industry

The advent of metals didn't signify the end of stone tools. Harappans continued to use stone blades and bladelets. Chert continued to be an important raw material. Several workshops manufacturing them were located near the Sukkur-Rohri hills in northern Sindh. Each workshop had a specialized task. Some manufactured blades were 8 cm. long and more. Others worked on waste cores to convert them into smaller bladelets. Other than Sindh, sites in Gujarat, like Lothal, too manufactured blades of locally available stone (Figure 6.8).

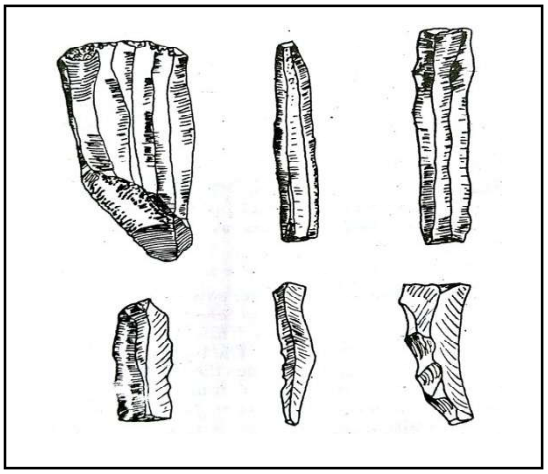

Fig. 6.8: Stone Blade Tools (Mohenjodaro).

Source: EHI-02, Block 2, Unit 6, p. 24

Shell–Processing

A wide variety of shell objects like bangles, ladles, spoons, inlay pieces, decorative objects have been recovered from the Indus sites. These were made of conch (*Turbinella*) from Makran, Kutch and Khambat coast, clam shells from Makran coast, and *Chicoreus* and *Fasciolaria* from Kutch and perhaps Oman. Manufacture of shell objects are known from Balakot, Nageswar and Kuntasi with some workshops also discovered in the interior sites like Harappa and Mohenjodaro. This implies that shell in raw form was highly valued and was an important trade item.

Steatite

Steatite was mainly used in the manufacturing of seals (Figure 6.9).

Fig. 6.9: Harappan Seals. Courtesy: Credit: World Imaging.

Source: Wikimedia Commons. https://commons.wikimedia.org/wiki/File:IndusValleySeals.JPG

Seal making workshops are known from Harappa and Lothal. A variety of animals like short-horned bull, buffalo, bull, rhinoceros, tiger, crocodile are depicted on the seals. We also have mythical animals like unicorn, horned tiger, horned elephant, and others depicted on the seals. While most samples are square, about 10% recovered are rectangular. We can briefly comment on the usage of seals. In the contemporary civilization, the seals are used to secure goods over long-distance trade. The packages sealed could only be opened at the destination which protected the goods from tampering. At Lothal many seals were found in the warehouse. This indicates that the Indus seals had a similar purpose. Steatite was also used in manufacturing beads. The main workshops were located at Nausharo, Mohenjodaro and Chanhudaro.

Weights and Measures

The Harappans used a standardized system of weights and measures. Most weights were of cubical shape and made of chert. We also have few specimens made of

fine agate and jasper. The weights increased in one to sixty-four multiples of 0.871 grams. For linear measurement, we know of scales made of shell, ivory, and copper from Mohenjodaro, Lothal and Harappa.

6.6 DRAINAGE

One of the most impressive characteristics of the Harappan settlements is their drainage system. Sites like Harappa, Kalibangan, Nausharo, Chanhudaro, Allahdino, Dholavira, Lothal, Mohenjodaro have given evidence of elaborate drainage facilities. The specific features of the elaborate drainage system include management of waste water inside the houses, intramural drains, vertical drain pipes in the walls, chutes through walls to the streets, drains from bathing floors into street drains (Possehl, 2003). The street drains at all sites were made of baked bricks. The one at Allahdino is of stone. We also have evidence for the use of gypsum and lime plaster in the bottom of the drains at Mohenjodaro. In fact, at Mohenjodaro, drains dated to Early Harappa and the Transitional phases have been found. Drains were raised with very building period.

Most of the drains were covered with brick or stone. Small settling pools and traps were built into the system of drainage to catch coarse sediment. This was periodically collected.

Baths were commonly constructed in the houses. The slope of the platform, bricks on the floor, raised rim around the platform, the smooth finish provided to the floors, coating of a plaster of lime and brick dust all indicate the utmost care taken in fashioning these bathrooms.

6.7 ART

Compared to its contemporaries, Indus civilization is not particularly rich in art. We have recovered some human and animal figurines. Most human figurines were handmade and were made from bronze, terracotta, steatite and faience material. We have both male and female figurines with sex of some not being identifiable. The female figurines were adorned with elaborate jewellery and headdress. Many of them were recovered from Harappa, Mohenjodaro and Banawali. Some crude specimens were discovered at Lothal. The most famous is a bronze figurine called the ‘Dancing girl’. The specimen is about 11.25 cm high. It depicts a slim girl, whose one hand rests slightly above her left knee and other on her hip. The left hand is completely covered in bangles while the right only has four bracelets. She also wears a necklace with three pendants. Her eyes are half-closed, and hair tied in a bun. She is wearing a necklace having three pendants/amulets (Figure 6.10). Her pose does not indicate any dancing step, but she was labeled as ‘dancing girl’ by John Marshall as she reminded him of nautch girls. Another important sculpture is the priest-king (Figure 6.11). It is a male figurine, about 7 inches in height. The eyes of the figure are half-closed, focusing on the tip of the nose. He is wearing a shawl decorated with trefoil motif that covers his chest and left shoulder. We have also discovered animal figurines from many sites. These could have been used as toys, a few of them could be amulets or ornaments (John Marshall 1931).

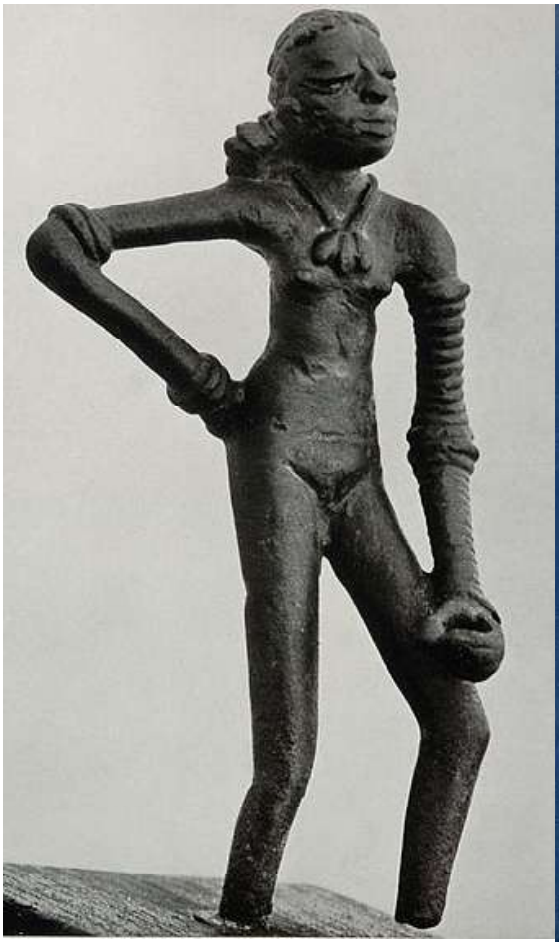

Fig. 6.10: 'Dancing Girl' of Mohenjodaro. Credit: Alfred Nawrath.

Source: Wikimedia Commons, https://commons.wikimedia.org/wiki/File:The_Dancing_ Girl,_in_ a_photogravure_by_ Alfred_Nawrath,1938.jpg

Fig. 6.11:'Priest King', Mohenjodaro. National Museum, Karachi, Pakistan. Credit: Mamoon Mengal.

Source: Wikimedia Commons .https://en.wikipedia.org/wiki/File:Mohenjo-daro_Priesterk% C3%B6nig.jpeg

6.8 TRADE

Internal Trade

Harappan trade was based on barter. A wide variety of goods were traded. Thus, the shell from as far away as Makran and Kutch coast reached Harappa to be processed into bangles. Sukkur-Rohri hills provided many sites with their chert blades. Further, the presence of seals and uniform weights implied an existence of a regulated internal trade network. The actual trade routes can only be inferred by locating the sources of the raw materials and understanding the location of sites. Baluchistan supplied copper, lead, jasper, agate and *silajit* to the Harappan cities via southern Sindh. From the location of Harappan sites and material, we can infer three routes: the Mula pass, the passes in Sindh's Kohistan and a coastal route connecting Sutkagen Dor and Shahi Tump in Baluchistan with Balakot Sindh.

The sites in Sindh further supplied materials like shell and flint to the sites in Punjab. This trade might have been conducted on the river Indus. From the distribution of Harappan sites, we can infer a land route going from Karachi district to Multan via Larkana district and Sukkur-Rohri hills. Punjab, in turn, was well connected with several sites in Rajasthan, Haryana, Baluchistan and Afghanistan. Two trade routes connected Rajasthan with Punjab. One, a land-

riverine route connected Multan to southern Rajasthan through Bahawalpur, Anupgarh, Mahajan, Lunkaransar, Bikaner and Jaipur with ferry crossings at Sutlej and Ghaggar-Hakra. Second, a land route connected Multan and Bikaner via Pugal. Rajasthan provided gold, silver, lead, semi-precious stones and copper to the rest of the sites, and in return acquired chert and shell. Two land routes connected Punjab through Haryana: one connecting Bahawalpur, and going through the upper Sutlej area, and another, through the Ghaggar-Drishadvati divide in central Punjab. They thus, acquired copper, silver, emerald, and semi-precious stones from Rajasthan, and shell and flint from Sindh. Punjab was also connected to Baluchistan through the Salt range and hill outliers like Chiniot, Kirana and Dhak. These hills are rich in raw materials like steatite, gypsum, jasper, limestone, slate, granite, basalt, marble, quartzite, sandstone, *abri*, copper, lead, gold and haematite. Another route followed the Indus River, connecting Harappa to site Gumla, and from here on to the sites in Central Asia.

External Trade

Indus civilization might have interacted and exchanged goods with contemporary civilizations. Many of the Indus artefacts have been discovered from many sites in West Asia.

An important export item to the cities of Mesopotamia was long barrel-cylinder carnelian beads and etched carnelian beads. In Ur, they were discovered in the royal graves dated around 2600 BCE. Etched carnelian beads were also discovered from Ur, Kish, Nippur, Assur, and Tell Asmar. In addition, recovery of Indus and Indus-like seals also support the existence of trade. Seals have been recovered from Kish, Lagash, Nippur, Tell Asmar, Tepe Gawra, Ur. An Indus weight was recovered from Ur and from Tepe Gawra and Al Hiba we recovered an Indus dice.

The Mesopotamian texts (time of King Sargon, 2334-2279 BCE) tell us about trading links with Dilmun, Magan and Meluhha. Dilmun is identified with Bahrain, and Magan with the Makran coast. There is some controversy on the identification of Meluhha. The text tell us about the ships from Meluhha bringing in copper, tin, lapis lazuli, carnelian, ebony, gold, silver, ivory, wood of mulberry, sisso, and date palm. It is not clear whether Meluhha refers to Harappans. D.K. Chakrabarti argues that given the kind of materials involved, it might refer to the areas east of Mesopotamia, than to the Harappan civilization.

Other than Mesopotamia, sites located in the gulf areas like Bahrain, Failaka, Sharjah and the Oman peninsula have given us Indus or Indus-inspired objects. Ras-al-Qala, Hamad, Hajjar, Failaka had seals with Indus characters. Tell Abraq had ivory comb, possibly from Indus. In Oman, Ras-al-Junayaz gave a variety of Harappan objects: inscribed sherd, steatite seal, ivory comb with a wood coated with bitumen. In Turkmenia, sites of Altyn Tepe and Namazga have yielded Indus related objects. A square soapstone/ablaster seal with Indus pictographs was recovered from Altyn Tepe. From Namazga, an ithyphallic terracotta figure similar to one discovered in Harappan civilization was recovered.

Carnelian beads were also exported to the sites in north and south Iran. They were recovered from Hissar, Shah Tepe, and Marlik in north Iran, and Shahdad, Tepe Yahya, Jalalabad, and Kalleh Nisar. In addition, Tepe Yahya also had a sherd stamped with Indus seal, and a terracotta object depicting a man seated in

lotus position dated to 2320 BCE. Kalleh Nisar had three Indus-like seals. In Susa, two seals – cylinder and circular had Indus characters. In Shahr-i-Sokhta, Xancus pyrum shells originating from Gujarat coast were found.

Besides West Asia, Harappans also had trade contacts with Afghanistan and Central Asia. Lapis lazuli from Afghanistan and tin from Central Asia were greatly valued. The site of Shortughai in Afghanistan was perhaps established to facilitate this trade. Some sites like Dashly 3 in north Afghanistan have given us proof for contacts with the Harappan. From the palace at the site, we discovered artefacts with Indus-like trefoil motifs, humped bulls on alabaster plates, and kidney shaped vases of steatite.

6.9 SOCIETY

The composition of the Harappan society from the archaeological records is fairly clear. From the economic activities, we can infer the presence of various craft specialists, traders, and farmers in the society. The construction of important buildings like citadels, granaries indicates the existence of a labour class. The presence of seals, standardization of artefacts, use of uniform weights indicate the existence of a ruling class which regulated various economic activities. While the debate on the nature of Harappan religion continues, there is no doubt that there existed a priestly class

The Rulers

The debate on Harappan polity consists of several issues. Did it consist of a single empire? Were there different kingdoms that were following a common ideology? What kind of rulers existed: autocratic or corporate? Was the civilization at the level of a state or chiefdom?

Wheeler and Stuart Piggot state that it was one empire ruled by autocratic priest-kings helped by an efficient bureaucracy. However W. Fairservis believes that centralized rule needs military enforcement and a standing army. The Harappan cities lack military character. Instead, the impressive uniformity of the cities could have been due to a religious ideology. S.C. Malik agrees. However other scholars believe that this uniformity could have been achieved through the needs of the internal trade than a political authority. These arguments attempt to see Harappan polity as a very simple organization. Fairservis has even advocated a village-like authority regulating the cities.

M. Kenoyer has argued for the presence of both state-level and chiefdom-level polities among the Harappans, with larger settlements being at the state-level and the smaller settlements in remote areas being at the level of the chiefdom. He further argues that urban settlements like Harappa, Mohenjodaro, Rakhigarhi and Ganeriwala could have been independent city-states with several urban elite competing for power.

J. Jacobson surveyed the various aspects of Harappan civilization to conclude that the civilization shows 'state level of socio-cultural integration' as seen from cultural and perhaps linguistic uniformity achieved over a large area, standardization of planning and others. However, in terms of polity it may have been at an early state level as seen in its weak military component and weak level of stratification.

In the end we can say that some sort of political authority/State did exist in the Harappan civilization. The political authority that was present was different from the one at Mesopotamia or Egypt. The communications systems, standardization of artefacts, site specialization, mobilization of labour for public works, use of common system of writing, cultural homogeneity, and the establishment of trading outposts like Shortughai — all these elements indicate a level of complexity which could not have been possible without some kind of political authority.

6.10 RELIGION

One of the first understandings of Harappan religion was forwarded by John Marshall. Based on the data available from Mohenjodaro and Harappa, he observed many similarities between the Harappan religion and the later-day Hinduism. One of the seals was identified by him as 'Proto-Siva' seal (figure 6.12).

Fig. 6.12: 'Proto Siva' Seal

Source: Wikimedia Commons. Credit: http://www.columbia.edu/itc/mealac/pritchett/00routesdata/bce_500back/indusvalley/protoshiva/protoshiva.jp

This seal has a male figure seated on a dais. His heels are joined, and toes point downward. Both his arms are covered with bangles, and rest on the knees. This position is very similar to *mulabandhasana* in yoga. The historic Siva was associated with yoga and was known as *mahayogi.* The figure is also surrounded by six animals: elephant, rhinoceros, water buffalo, tiger, two ibexes/antelopes. On this basis he can be interpreted as the Lord of animals or as '*pashupati'* (Marshall, 1931). Beneath his seat, we have two animals identified either as ibex

or antelopes. The figure is three-faced, very similar to some of the later depictions of Siva.

Other evidence that can be brought forth to support the existence of the Siva are the cylindrical stones from Mohenjodaro and Harappa which could be seen as *siva-linga.* However the Proto-Siva theory has been contested.

Besides the presence of a male deity Marshall postulated the presence of Mother Goddess worship in the Indus civilization. Two kinds of data are available: seals and figurines. Among several female figurines discovered at Mohenjodaro and Harappa, Marshall pointed out the one with fan-shaped headdress, wearing bead necklace and short-skirt to be a mother goddess. This figurine is very similar to the one found in other ancient cultures. She represents mother or nature goddess. The female figurines are mostly found in the sites on the side of Pakistan. On the Indian side, we can think of Banawali in Haryana which has yielded these figurines in large numbers. This suggests that mother-goddess cult was popular in a few areas. Sites like Kalibangan, Lothal, and also Banawali have evidence for fire altars. This could indicate the existence of a sacrificial ritual at least in some Harappan cities.

Harappans might have also venerated *pipal* trees. One seal depicts seven figures paying obeisance to the tree. A horned figure stands on the tree. Some scholars argue that this scene is reminiscent of later-day *saptmatrikas.* Some even identify the figures as *sapt-rishis*. But nothing definite can be said.

In architecture, very few buildings have been identified as temples. The funerary practice of Harappans shows great deal of variations. Both cremation and burial were known. While some sites like Mohenjodaro have burials within the settlement; separate cemeteries have been found at Harappa, Kalibangan, Lothal, Dholavira and more recently Rakhigarhi. In recent excavations, unique burials were discovered from Dholavira and Rakhigarhi. Dholavira has some evidence of megaliths, but these are mostly symbolic burials. A unique feature at Rakhigarhi was that in the cemetery the female burials often had more burial goods than the male burials.

Check Your Progress Exercise 2

1) Discuss the architectural features and drainage system of the Harappan settlements?

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2) What were the major elements of Harappan religion?

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3) Describe the main features of the economy of the Harappans.

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4) Which of the following statements are correct?

i) Siva seems to be the most important Harappan God. ( )

ii) The female deities were absent in Harappan religious objects. ( )

iii) Trees also seem to have been worshipped by the Harappans. ( )

iv) No animals were worshipped by the Harappans. ( )

6.11 SUMMARY

This is briefly an overview of the society, economy and polity of the Mature Harappan phase. The area covered by the civilization is very large. The Harappans were able to maintain remarkable uniformity for almost 500 years. However, they followed varied subsistence patterns, food habits, craft traditions, religious beliefs, cultic practices and social customs.

The Mature Harappan phase is characterized by urbanization. In the field of crafts, economy, trade, metallurgy, art we see intensification from the preceding levels. The settlements are noted for their public architecture, drainage, division of the settlement into citadel and lower town, fortification walls, granaries, wells, roads, sewage disposal system, seals, pottery and craft items. From 1800 BCE, we witness a change in the archaeological data. The urban phase had completely ended. Some of the sites like Kalibangan and Banawali were completely abandoned. The smaller and poor cultures have been labeled as Late Harappan. We shall study in the next unit greater details of this phase, along with the reasons for the decline of the Harappan civilization.

6.12 KEY WORDS

Bailey : It is a fortified courtyard attached to the castle.

Chiefdom/Early State: This represents the next level after tribe. It is sedentary, has greater population and specialization. They are led by a chief, who is much more powerful than his tribal counterpart. The only element missing is social stratification.

Fortified/Fortification: Surrounded by a wall.

Lost wax process : It is metal shaping process in which melted metal is poured into a desired mould made of wax. Once the metal is set, the wax is melted.

Megaliths : The term consist of two words '*mega*' or big and '*lithic*' or stone. In many cultures across the world, the dead were often buried in monuments built of large stone slabs.

Moat : An artificial water body built surrounding the building to protect it.

Shaman : A person who achieves powers through a trance. They can communicate with the other world and possess healing powers.

Sinking : Also known as doming. It is a technique used in metallurgy by which a metal is hammered into desired shape.

State : A state is a far more complex entity. It is densely populated and has high level of surplus. The access to surplus depends on one's status, rank in the society. There is greater division of labour and social stratification. The power of the ruler is absolute.

Tribal society : This is a very simple society consisting of a collection of family groups. It has a simple economy dependent on agriculture and hunting, and small-scale craft production.

6.13 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1) i) d ii) a iii) b iv) c
2) See Section 6.4 and its Sub-sections.
3) See Sub-section 6.4.6

Check Your Progress Exercise 2

1) Please see Section 6.4 and its Sub- sections and Section 6.6.
2) See Section 6.10.
3) See Section 6.5 and 6.8
4) i and iii

6.14 SUGGESTED READINGS

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UNIT 7 HARAPPAN CIVILIZATION-III*

Structure

7.0 OBJECTIVES

After reading this unit, you will learn about:

- the problems faced by scholars in understanding the decline of Harappan civilization;
- the theories put forward for the decline of Harappan civilization;
- why over the years, the scholars have stopped looking for the causes of decline; and
- the evidence of the survival and continuities of the Harappan civilization.

7.1 INTRODUCTION

In the previous units we have discussed the various aspects of the origin and growth of Harappan civilization. However, the disappearance of the various aspects of its maturity i.e. writing, town planning, uniformity, etc. in the subsequent phase is rather puzzling. In this Unit we will examine the various arguments put forward to solve this mystery.

7.2 DECLINE OF HARAPPAN CIVILIZATION: THE ARCHAEOLOGICAL EVIDENCE

Cities like Harappa, Mohenjodaro and Kalibangan experienced gradual decline in urban planning and construction. Houses made of old dilapidated bricks and shoddy construction encroached upon the roads and streets of the towns. Flimsy

*This Unit has been adopted from EHI-02, Block 2.

partitions sub-divided the courtyards of the houses. The cities were fast turning into slums. A detailed study of the architecture of Mohenjodaro shows that many entry points to the 'Great Bath' were blocked. Sometime later the 'Great Bath' and the 'Granary' fell into total disuse. At the same time the late levels (i.e. later habitations) at Mohenjodaro showed a distinct reduction in the number of sculptures, figurines, beads, bangles and inlay works. Towards the end, the city of Mohenjodaro shrank to a small settlement of three hectares from the original eighty-five hectares. Before its abandonment Harappa seems to have witnessed the arrival of a group of people about whom we know through their burial practices. They were using a pottery which was different from that of the Harappans. Their culture is known as the 'Cemetery H culture'. Processes of decline were in evidence also in places like Kalibangan and Chanhudaro. We find that buildings associated with power and ideology were decaying and goods related to the displays of prestige and splendour were becoming increasingly scarce. Later on, cities like Harappa and Mohenjodaro were abandoned altogether.

Map: Sites of Late Harappan Period. Source: EHI-02, Block 2.

A study of the settlement pattern of the Harappan and Late Harappan sites in the Bahawalpur area also indicates a trend of decay. Along the banks of the Hakra river the number of settlements came down to 50 in the Late Harappan period from 174 in the Mature Harappan period. What seems likely is that in the last two-three hundred years of their life, the settlements in the core region of the Harappan civilization were declining. The population seems to have either perished or moved away to other areas. Whereas the number of sites in the triangle of Harappa, Bahawalpur and Mohenjodaro declined, the number of settlements in the outlying areas of Gujarat, East Punjab, Haryana and upper *Doab* increased. This indicates a phenomenal increase in the number of people in these areas. This sudden increase in the population of these regions can be explained by the emigration of people from the core regions of Harappa.

In the outlying regions of the Harappan civilization, i.e. the areas of Gujarat, Rajasthan and Punjab people continued to live. But life had changed for them. Some of the important features associated with the Harappan civilization—writing, uniform weights, Harappan pottery and architectural style had disappeared.

The abandonment of the cities of the Indus is roughly dated to about 1800 BCE. This date is supported by the fact that the Mesopotamian literature stops referring to Meluhha by the end of 1900 BCE. However, even now, the chronology of the end of Harappan cities remains tentative. We do not as yet know whether the major settlements were abandoned at one and the same time or at different periods. What is certain, however, is the fact the abandonment of the major cities and the de-urbanization of other settlements indicate the decline of the Harappan civilization.

7.3 THEORIES OF SUDDEN DECLINE

Scholars have given different answers to the question as to why did the civilization end? Some scholars, believing in a dramatic collapse of the civilization, have looked for evidences of a calamity of catastrophic proportions, which wiped out the urban communities. Some of the more plausible theories for the decline of the Harappan civilization are:

a) that it was destroyed by massive floods.

b) that the decline took place because of the shift in the course of rivers and the gradual drying up of the Ghaggar-Hakra river system.

c) that barbarian invaders destroyed the cities.

d) that the growing demands of the centres disturbed the ecology of the region and the area could not support them anymore.

Let us discuss these explanations on their merits.

7.3.1 Floods and Earthquakes

Among the causes spelled out for the decline of the Harappan civilization, scholars have used the evidence of flooding in Mohenjodaro. It appears from the records of the principal excavators that in Mohenjodaro various periods of occupation were separated by evidences of deep flooding. This can be inferred from the fact that the houses and streets of Mohenjodaro were covered with silty clay and

collapsed building material many times in its long history. This silty clay seems to have been left by the flood waters which had submerged the streets and houses. The people of Mohenjodaro again built up houses and streets on top of the debris of the previous buildings, after the floods had receded. This kind of catastrophic flooding and rebuilding on top of the debris seems to have happened at least thrice. Borings in the occupation deposit indicate successive phases of occupation levels spanning a vertical distances of 70 feet which is equivalent to the height of a seven storied building. Many occupation deposits were divided by silt deposits. Thick silt deposits have been noticed at points as high as 80 feet above the present day ground level. Thus, many scholars believe that the evidences are indicative of abnormal floods in Mohenjodaro. These floods led to the temporary desertion and reoccupation of the city throughout its history. That these floods were catastrophic is shown by silt deposits 80 feet above the present ground level, meaning that the flood waters rose to such height in this area. The Harappans at Mohenjodaro tired themselves out, trying to out top the recurring floods. A stage came when the impoverished Harappans could not take it anymore and they simply abandoned the settlement.

Raikes's Hypothesis

The theory of catastrophic flooding has been carried further by a famous hydrologist R.L. Raikes. He argued that such flooding which could drown buildings 30 feet above the ground level of the settlement could not be the result of normal flooding in the river Indus. He believes that the Harappan civilization declined because of catastrophic flooding causing prolonged submergence of the cities located on the bank of the river Indus. He has shown that geomorphologically speaking the Indus area is a disturbed seismic zone. Earthquakes might have raised the level of the flood plains of the lower Indus river. This uplift of the plain along an axis roughly at right angles to that of the river Indus blocked the passage of the river water to the sea. This led to the ponding of the waters of the river Indus. A lake was formed in the area where cities of the Indus had once flourished. And thus, the rising water levels of the river swallowed up cities like Mohenjodaro.

It has been pointed out that sites like Sutkagendor and Sutka-koh on the Makran Coast and Balakot near Karachi were seaports of the Harappans. However, at present, they are located far away from the sea-coast. This has happened because of the upliftment of the land on the sea-coast possibly caused by violent tectonic uplifts. Some scholars believe that these tectonic uplifts took place somewhere in the second millennium BCE. These violent earthquakes, damming rivers and burning the towns destroyed the Harappan civilization. This led to the disruption of the commercial life based on river and coastal communication.

Criticism: This grand theory of the catastrophic fall of the Harappan civilization is not accepted by many scholars. H.T. Lambrick points out that the idea that a river would be dammed in such a manner even by tectonic uplifts is incorrect due to two reasons:

i) Even if an earthquake artificially raised a bund downstream, the large volume of water from the Indus would easily breach it. In recent times in Sindh, a swell of ground raised by the earthquake of 1819 was breached by the first flood it faced from one of the smaller streams of the Indus called Nara.

ii) Silt deposition would parallel the rising surface of water in the hypothetical lake. It would take place along the bottom of the former course of the river. Thus, the silt of Mohenjodaro might not be the deposition of a flood. Another criticism of this theory is that it fails to explain the decline of the settlements outside the Indus system.

7.3.2 The Shifting Away of the Indus

Lambrick has offered his own explanation for the decline. He believes that changes in the course of the river Indus could be the cause of the destruction of Mohenjodaro. The Indus is an unstable river system which keeps shifting its bed. Apparently, the river Indus shifted about thirty miles away from Mohenjodaro. The people of the city and the surrounding food producing villages deserted the area because they were starved of water. This kind of thing happened many times in the history of Mohenjodaro. The silt observed in the city is actually the product of wind action blowing in lots of sand and silt. This, combined with disintegrating mud, mud brick and baked brick structures, produced what has been mistaken for silt produced by floods.

Criticism: This theory too cannot explain the decline of the Harappan civilization in totality. At best, it can explain the desertion of Mohenjodaro. And if the people of Mohenjodaro were familiar with those kinds of shifts in the river course why could not they themselves shift to some new settlement and establish another city like Mohenjodaro? Obviously, it appears that some other factors were at work.

7.3.3 Increased Aridity and Drying Up of the Ghaggar

D.P. Agarwal and Sood have introduced a new theory for the decline of the Harappan civilization. They believe that the Harappan civilization declined because of the increasing aridity in this area and the drying up of the river Ghaggar-Hakra. Basing their conclusions on the studies conducted in the U.S.A., Australia and Rajasthan they have shown that there was an increase in the arid conditions by the middle of the second millennium BCE. In semi-arid regions like those of the Harappa, even a minor reduction in moisture and water availability could spell disaster. It would affect agricultural production which in turn would put the city economies under stress.

They have discussed the problem of the unstable river systems in western Rajasthan. As stated earlier the Ghaggar-Hakra area represented one of the core regions of the Harappan civilization. The Ghaggar was a mighty stream flowing through Punjab, Rajasthan and the Rann of Kutch before debouching into the sea.

Rivers Sutlej and Yamuna used to be the tributaries of this river. Because of some tectonic disturbances, the Sutlej stream was captured by the Indus river and the Yamuna shifted east to join the Ganges. This kind of change in the river regime, which left the Ghaggar waterless, would have catastrophic implication for the towns located in this area. Apparently, the ecological disturbances brought by the increased aridity and the shift in the drainage pattern led to the decline of the Harappan civilization.

Criticism: Interesting though this theory is, it has some problems. The theory about the onset of arid conditions has not been fully worked out and one needs

more information. Similarly, the drying up of the Ghaggar has not been dated properly as yet.

7.3.4 Barbarian Invasions

Wheeler believed that the Harappan civilization was destroyed by the Aryan invaders. It has been pointed out that in the late phases of occupation at Mohenjodaro there are evidences of a massacre. Human skeletons have been found lying on the streets. The *Rigveda* time and again refers to the fortresses of the *Dasas* and *Dasyus*. The Vedic god Indra is called '*Purandara*' meaning 'the destroyer of forts'. The geographical area of the habitation of the *Rigvedic* Aryans included the Punjab and the Ghaggar-Hakra region. Since there are no remains of other cultural groups having forts in this area in this historical phase, Wheeler believed that it was the Harappan cities that were being described in the *Rigveda*. In fact, the *Rigveda* mentions a place called Hariyupiya. This place was located on the bank of the river Ravi. The Aryans fought a battle here. The name of the place sounds very similar to that of Harappa. These evidences led Wheeler to conclude that it was the Aryan invaders who destroyed the cities of Harappa.

Criticism: Attractive though this theory is, it is not acceptable to a host of scholars. They point out that the provisional date for the decline of the Harappan civilization is believed to be 1800 BCE. The Aryans on the other hand are believed to have arrived here not earlier than a period around 1500 BCE. At the present state of knowledge it is difficult to revise either of the dates and so, the Harappans and the Aryans are unlikely to have met each other. Also, neither Mohenjodaro nor Harappa yield any other evidence of a military assault. The evidence of the human bodies lying exposed in the streets is important. This, however, could have been caused by raids by bandits from the surrounding hilly tracts. In any case, the big cities were already in a state of decay. This cannot be explained by the invasion hypothesis.

Check Your Progress Exercise 1

1) The decline of the Harappan civilization could not be explained by flood and earthquakes theory because
   a) It explains the decline of settlements outside Indus Valley. ( )
   b) It cannot explain the decline of settlements outside the Indus Valley. ( )
   c) The Harappans knew how to face floods and earthquakes. ( )
   d) none of the above. ( )
2) The increased aridity in the Harappan area cannot explain the decline of Harappa because
   a) It is a fully worked out theory ( )
   b) It is not a fully worked out theory ( )
   c) Drying up of river Ghaggar is not dated yet ( )
   d) both (b) and (c) ( )
3) Discuss in about 50 words the evidence for and against the theory of Barbarian invasions having destroyed Harappan Civilization.

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7.4 ECOLOGICAL IMBALANCE

Scholars like Fairservis try to explain the decay of the Harappan civilization in terms of the problems of ecology. He computed the population of the Harappan cities and worked out the food requirements of the townsmen. He also computed that the villagers in these areas consume about 80% of their produce leaving about 20% for the market. If similar patterns of agriculture existed in the past, a city like Mohenjodaro, having a population of about 35 thousand, would require very large number of villages producing food. According to Fairservis's calculation the delicate ecological balance of these semi-arid areas was being disturbed because the human and cattle population in these areas was fast depleting the scanty forests, food and fuel resources. The combined needs of the Harappan townsmen, peasants and pastoralists exceeded the limited production capacities of these areas. Thus, a growing population of men and animals confronted by scanty resources wore out the landscape.

With the forests and grass cover gradually disappearing, there were more floods and droughts. This depletion of the subsistence base caused strain on the entire economy of the civilization. There seems to have been a gradual movement away to areas which offered better subsistence possibilities. That is why the Harappan communities moved towards Gujarat and the eastern areas, away from the Indus.

Criticism: Of all the theories discussed so far Fairservis's theory seems to be the most plausible one. Probably the gradual deterioration in the town planning and the living standards was a reflection of the depleting subsistence base of the Harappans. This process of decline was completed by the raids and attacks of the surrounding communities. However, the theory of environmental disaster also has some problems.

- The enduring fertility of soils of the Indian sub-continent over the subsequent millennia disproves the hypothesis of soil exhaustion in this area.
- Also, the computation of the needs of the Harappan population is based on scanty information and a lot more information would be needed to make a calculation of the subsistence needs of the Harappans.

Thus, any theory based on such scanty information will remain a hypothesis, unless substantiated by more evidence in its favour.

The emergence of the Harappan civilization involved a delicate balance of relations between cities, towns and villages, rulers, peasants and nomads. It also means a fragile but important relationship with the communities of the neighbouring areas who were in possession of minerals crucial for trade. Similarly, it meant maintenance of contact with the contemporary civilizations and cultures. Apart from this, we have to take into account the ecological factor of relationship with nature. Any breakdown in these chains of relationships could lead to the decline of the cities.

7.5 THE TRADITION SURVIVES

Scholars working on the Indus civilization no longer look for the causes of its decline. This is because of the fact that the scholars who have studied the Harappan civilization right up to the 1960s believed that the collapse of the civilization was sudden. These scholars concentrated their work on the studies of cities,

town planning and large structures. Such problems as the relationship of the Harappan cities with the contemporary villages and the continuity of various elements of the Harappan civilization were ignored. Thus, the debate about the causes of the decline of the Harappan civilization became more and more abstract. It was towards the end of the sixties that scholars like Malik and Possehl focused their attention on various aspects of the continuity of the Harappan tradition. These studies have yielded more exciting results than the debate about the causes for the decline of the Harappan civilization. It is true that Harappa and Mohenjodaro were abandoned and the urban phase came to an end. However, if we take a perspective covering the entire geographical spread of the Harappan civilization, quite a few things seem to continue in the old style.

Archaeologically speaking some changes are observable- some of the settlements were abandoned but most other settlements remained in occupation. However, the tradition of uniform writing, seals, weights and pottery was lost. The objects showing intensive interaction among the far flung settlements were lost. In other words the activities associated with city-centred economies were given up. Thus the changes that came about simply indicated the end of the urban phase. Small villages and towns continued to exist and the archaeological finds from these sites show many elements of the Harappan tradition.

In most of the sites in Sindh it is difficult to observe any change in the pottery tradition. In fact in the areas of Gujarat, Rajasthan and Haryana, vibrant agricultural communities emerged in large numbers in the succeeding period. Thus, from a regional perspective, the period succeeding the urban phase can be treated as one of flourishing agricultural villages which outnumbered those of the urban phase. That is why scholars now discuss issues like cultural change, regional migrations and modification in the system of settlement and subsistence. After all no one talks about the end of the early Indian civilization in early medieval India when most of the cities of the Gangetic valley declined. Let us see what kinds of archaeological remains survived after the end of the urban phase.

Sindh

In Sindh, i.e. at the Harappan towns Amri and Chanhudaro, Jhukar, etc., people continued to live as of old. They were still staying in brick houses but they gave up the planned lay out. They were using a slightly different pottery called the Jhukar pottery. It was a buff-ware with red slip with paintings in black. Recent studies suggested that this pottery evolved from the 'Mature Harappan' pottery and as such need not be considered something new. In Jhukar certain distinctive metal objects have been found which might be indicative of trade links with Iran or what is more likely — the influx of a migrant population having Iranian or Central Asian influences. A shaft-hole, axes and copper pins with looped or decorated heads have parallels in Iranian settlements. Circular stamp seals of stone or faience and a bronze cosmetic jar are also indicative of contacts with the cultures to the west of the Indus.

The Indo-Iranian Borderlands

The areas to the west of the Indus-Baluchistan and the Indo-Iranian border lands also show the presence of people using copper stamp seals and copper shaft hole axes. Sites like Shahi Tump, Mundigak, Naushahro and Pirak indicate movements of people and contacts with Iran. Unfortunately the dating of these settlements is still not clearly worked out.

Punjab, Haryana and Rajasthan

In the areas of Punjab, Haryana and Rajasthan several settlements have been reported where people continued to live in the same old way after the decline of the cities. However, the Harappan influences on the pottery tradition gradually declined and the local pottery traditions which were always present along with the Harappa pottery gradually replaced the Harappan pottery altogether, Thus, the decline of urbanism was reflected in the reassertion of regional traditions in these areas (Figure 7.1). The sites of Mitathal, Bara, Ropar and Siswal are well known. Brick houses have been reported from Bara and Siswal. In many of these sites Ochre Coloured Pottery has been found. This pottery underlay many early historical sites in ancient India. As such these village cultures of Punjab, Haryana and Rajasthan are linked with the Harappan tradition of the past and anticipate the early Indian tradition. In the Upper Gangetic Valley also many agricultural settlements were established. They show remote Late Harappan influences. This area became the heartland of the subsequent phase of Indian civilization.

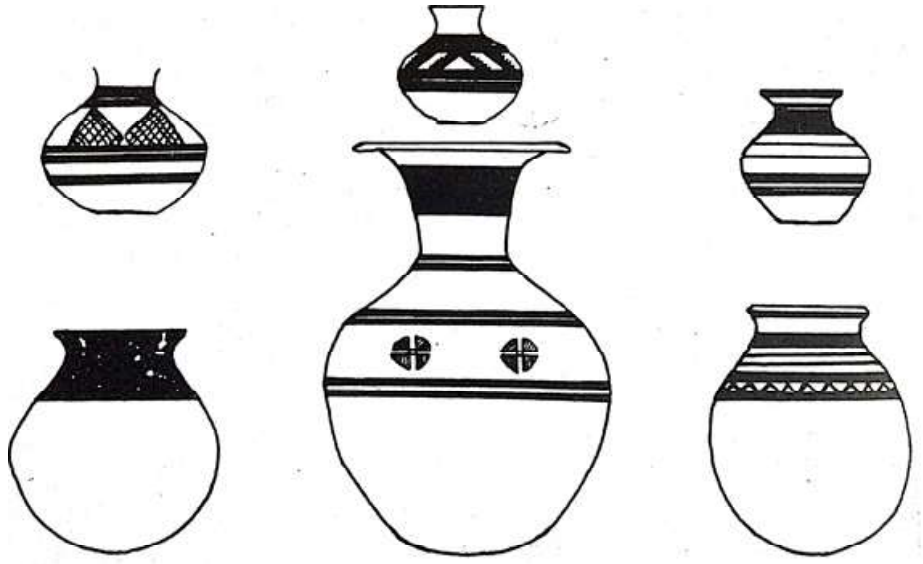

Fig. 7.1: Late Harappan Pottery from Haryana. Source: EHI-02, Block 2.

Kutch and Saurashtra

In Kutch and Saurashtra the end of the urban phase is clearly documented in places like Rangapur and Somnath. Even during the urban phase they had a local ceramic tradition co-existing with the Harappan pottery. This tradition continued in later phases. Some sites like Rangapur (Figure 7.2) seem to have become more prosperous in the succeeding period. They were using potteries called the Lustrous Red Ware. However, the people stopped using the Indus weights, script and tools imported from distant areas. Now they were using stone tools made of locally available stones.

In the Mature Harappan phase there were 13 settlements in Gujarat. In the subsequent Late Harappan dated to about 2100 BCE, the number of settlements went up to 200 or more. This increase in the number of settlements indicating an increase in population cannot be explained by biological factors. In pre-

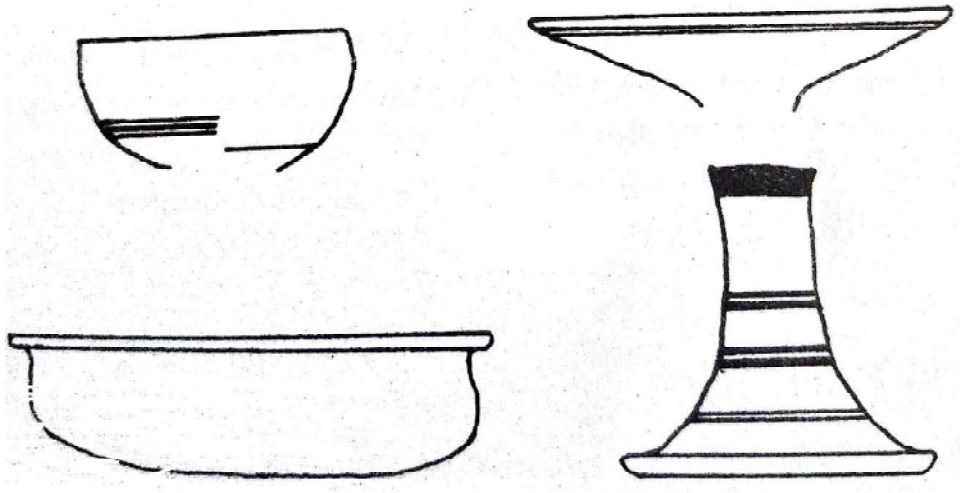

Fig. 7.2: Late Harappan Pottery from Rangpur. Source: EHI-02, Block 2.

modern societies the population could not increase so much in a space of a few generations that 13 settlements would multiply into more than 200 or more settlements. Thus, there is a distinct possibility that people inhabiting these new settlements came from other areas. Late Harappan settlements have also been reported from Maharashtra where their culture merged into those of the emerging agricultural communities.

7.6 TRANSMISSION OF THE HARAPPAN TRADITION

The end of the cities did not mean the end of the Harappan tradition. It is evident from our discussion that archaeologically speaking the Harappan communities merged into the surrounding agricultural groups. However, the centralised decision-making in the polity and economy had ended. The Harappan communities which continued after the urban phase would have definitely retained their older traditions. It is likely that the Harappan peasants would retain their forms of worship. The priests of the Harappan urban centres were part of a highly organised literate tradition. Even if literacy ended they are likely to have preserved their religious practices. The dominant community of the subsequent early historic period called itself 'The Aryans'. Possibly, the priestly groups of the Harappans merged into the ruling groups of the Aryans. As such the Harappan religious tradition would be transmitted to historical India. The folk communities also retained the traditions of craftsmanship as is evident from the pottery and tool making traditions. Once again when literate urban culture emerged in early India it absorbed elements of folk cultures. This would provide a more effective channel of transmission of the Harappan tradition.

7.7 WHAT SURVIVES FROM THE HARAPPAN CIVILIZATION?

The cults of Pasupati (Siva) and of the mother goddess and phallic worship seem to have come down to us from the Harappan tradition. Similarly, the cult of sacred places, rivers or trees and sacred animals show a distinct continuity in the subsequent historic civilization of India. The evidence of fire worship and sacrifice in Kalibangan and Lothal is significant. These were the most significant elements

of the Vedic religion. Could the Aryans have learnt these practices from the Harappan priesthood? This hypothesis would require more evidence but it is not unlikely.

Many aspects of domestic life like the house plans, disposition of water supply and attention to bathing survived in the settlements of the subsequent periods. The traditional weight and currency system of India, based on a ratio of sixteen as the unit, was already present in the Harappan civilization. It might well have been derived from them. The techniques of making potter's wheel in modern India is similar to those used by the Harappans. Bullock carts and boats used in modern India were already present in the Harappan cities. As such we can say that many elements of the Harappan civilization survived in the subsequent historical tradition.

Check Your Progress Exercise 2

1) It is difficult to accept the theory of ecological imbalance because: (Mark (✓) the correct statement).

   a) it does not explain why soil continues to be fertile in the lndus Valley area. ( )

   b) we do not have adequate data to tell us about the needs of Harappan towns. ( )

   c) townsmen continued to stay on in Harappan civilization. ( )

   d) both (a) and (b). ( )

2) Mark (√) the correct statement

   Scholars today,

   a) are looking for fresh causes of decline of the Harappan Civilization.

   b) have stopped looking for fresh causes of decline of Harappan civilization.

   c) are looking for what survived from Harappan civilization in the later settlements.

   d) both (b) and (c).

3) Write in about 50 words about the importance of what has survived from Harappan civilization.

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7.8 SUMMARY

We have seen that scholars have offered various theories of the sudden decline of Harappan civilization. But all these theories had to be given up because of lack of adequate evidence. Gradually scholars have given up looking for causes for the decline of Harappan civilization. Now the focus is on understanding the late phases of the civilization. This is looked into to expose the continuities of

Harappan civilization which might have survived in the flourishing agricultural communities of the time. And no doubt there have been certain characteristics of civilization which transcended down to the historic phase.

7.9 KEY WORDS

Ecology : Study of plants or animals or peoples and institutions in relationship to the environment.

Tectonic uplift : Relating to the process which elevate large areas of earth's surface.

Aryans : A group of people who spoke the Indo-European languages like Sanskrit, Latin, Greek etc.

Dasa* and *Dasyu : Peoples mentioned in the *Rigveda*. The Aryans were in conflict with their chiefs.

Ochre Coloured Pottery : A pottery found in the upper Gangetic plains. It has been found at the levels that underlie early Indian historical pottery.

Late Levels : An excavated archaeological site is divided into layers or settlement levels according to their ages. Accordingly the late or the youngest settlement level will be somewhere near the top of the site and the oldest will be at the bottom most.

Catastrophic : Disastrous.

Occupation deposits : At each level of the excavated site there will be evidence in form of pottery etc. to show that the site was occupied. These deposits are called occupational deposits.

Silt : Material deposit from a flowing river on the banks.

Arid : Dry.

7.10 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

1) b)

2) d)

3) See Sub-section 7.3.4. Your answer should include both the material evidence and the written evidence.

Check Your Progress Exercise 2

1) d)

2) d)

3) See Section 7.7. Your answer should tell us how this points to the continuity of Harappan tradition.

7.11 SUGGESTED READINGS

Agrawal, D. P. and Chakrabarti, D. K. (1979) (Ed.). *Essays in Indian Proto-History*. New Delhi.

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