

Occasional Paper 6  
**Linguistics, Archaeology  
and  
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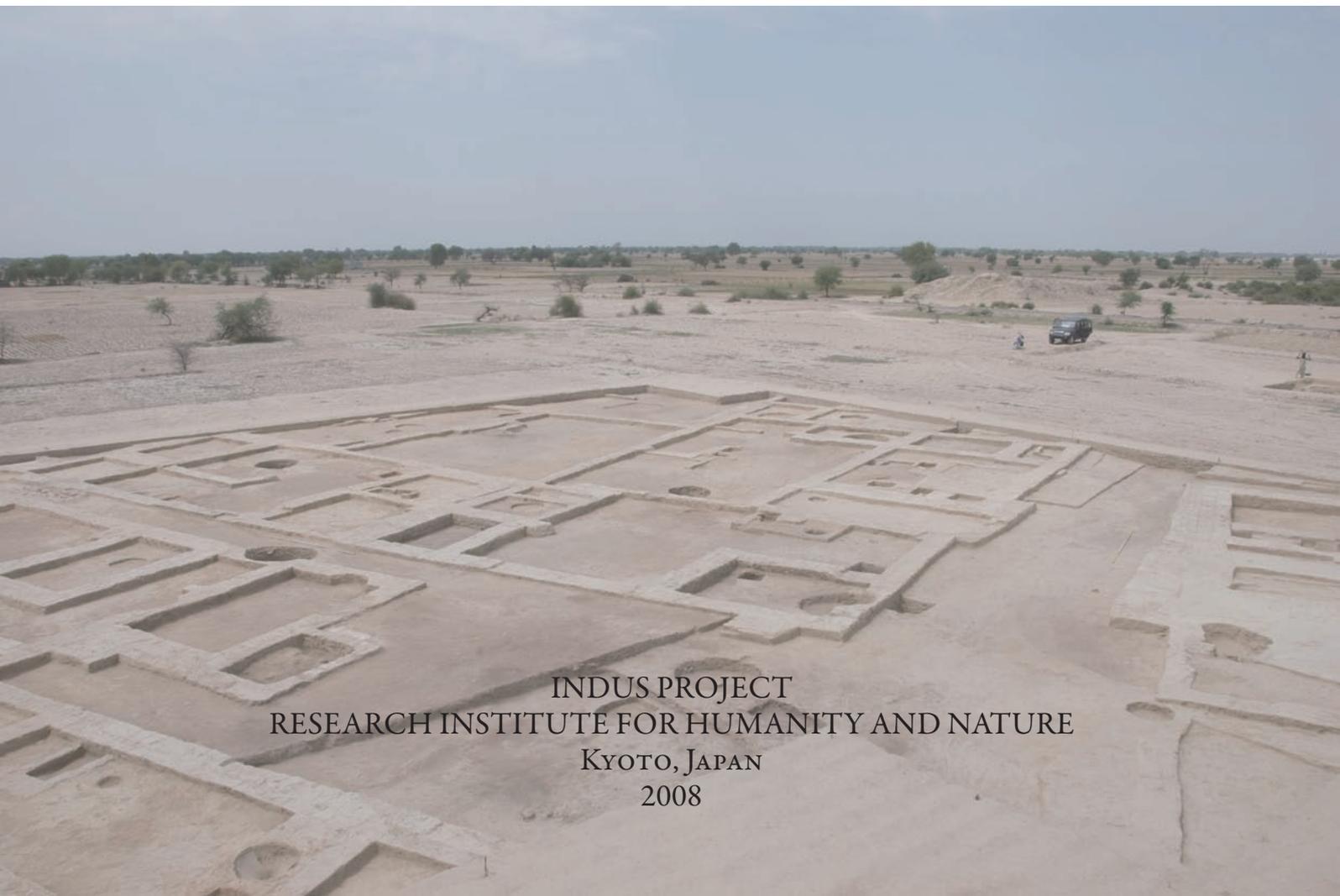
**A REPORT ON EXCAVATIONS AT FARMANA 2007-08**

BY

VASANT SHINDE, TOSHIKI OSADA, AKINORI UESUGI AND MANMOHAN KUMAR

EDITED BY

TOSHIKI OSADA AND AKINORI UESUGI



INDUS PROJECT  
RESEARCH INSTITUTE FOR HUMANITY AND NATURE  
KYOTO, JAPAN  
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A REPORT ON  
EXCAVATIONS AT FARMANA 2007-08

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## PREFACE BY THE EDITOR

I am honoured to announce the publication of *Occasional Paper: Linguistics, Archaeology and the Human Past* 6. This volume deals exclusively with the second preliminary report of the excavation at Farmana conducted in the season of 2007-08.

The site of Farmana is situated in the Rohtak District of the State of Haryana, India. This area is a part of the alluvial plain of the Ghaggar River which has been controversially identified with the Saraswati River in the Rigveda. There is a prominent concentration of archaeological sites which date from the pre-Harappan through the Mature Harappan down to the post-Harappan and Early Historic periods. It is very obvious that this region has played a crucial role in the history of South Asia.

The excavation at Farmana started in the season of 2006-07 after an exploration in the Ghaggar Basin in Haryana and Rajasthan. As reported in this volume, the excavation at this site has been providing a fruitful results to the understanding of the significance of the Ghaggar Basin. The excavation in two seasons has revealed a huge complex of mud-brick structures with a distinct town planning as well as a number of aretfacts including two steatite Indus seals.

In addition to the typical Harappan traits, it has been confirmed that the various traits of the local culture which developed out of the pre-Harappan culture in this region existed at the site. This indicates that the inter-relationship between the Harappan and local culture greatly contributed to the social structure of the Indus Civilization during the third millennium BCE, in a similar way to the case in Gujarat.

I believe that further excavation at this site and proper analysis of the data collected will make a great contribution to the studies of the Indus archaeology.

Last but not least, I would like to express my gratitude to Prof. Vasant Shinde of Deccan College, Pune who has taken charge of the excavation and the report in this volume. I also thank to Prof . Manmohan Kumar of M.D. University, Rohtak who has supported the excavation in various ways.

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## PREFACE BY THE AUTHOR

It is heartening to state that a number of Japanese archaeologists and selected institutions of higher learning in Japan are taking keen interests in the Harappan Civilization, one of the oldest civilizations of the ancient world, and the first of South Asia. Professor Toshiki Osada of the Research Institute for Humanity and Nature (RIHN), Kyoto, Japan, who was awarded with the Indus Project as a part of the National Institutes for the Humanities, Japan is a testimony to the growing and serious interest of Japanese in the early history of the Indian Subcontinent. In 2006-07, a new project entitled “Climate and Culture: An Interdisciplinary Approach to the Harappan Archaeology in the Ghaggar Basin” was initiated under the aegis of the Indus Project of RIHN.

The first year was devoted to the survey in parts of the Ghaggar Basin, under which a few sites discovered earlier were visited and studied, and a couple of new sites were discovered and small excavation of three sites, namely Girawad, Farmana and Mitathal, was undertaken to find out the potentiality for further large-scale work. The entire habitational deposit at the site of Girawad was removed by the land owners with a view to converting it into agricultural fields. When the site of Girawad was visited in 2006, a number of features were visible at the the present surface. The team therefore decided to rescue these features and document them systematically by undertaking salvage excavation. The results of the finds have been published in detail in the *Occasional Paper 3* of the Indus Project.

The sites of Farmana and Mitathal were subjected to small excavations, mainly because they were being ransacked by the villagers. Of the two, the site of Farmana was identified as most potential for further large-scale work as it has a sequence from the Early Harappan to the Mature Harappan periods, where there is a scope to study the development of the Harappan culture and its regional variations. Excavations carried out last season at the site of Farmana revealed pit-dwelling in the Early Harappan levels and a gradual transformation to rectangular structures in an ascending order. In the Mature Harappan phase, the site was developed into a full-fledged town. The ceramic assemblages developed by the early settlers at the site continued in the Mature Harappan phase in addition to the typical Harappan ceramic assemblages.

This season's (2007-08) excavation was mainly confined to Period II (Mature Harappan) levels and we have unearthed a part of a parallelogram town planning in the relatively intact central portion of the site. The excavated structural remains consisted of three multi-roomed complexes made of mud-bricks, which were separated by a main street and lanes. The excavation also yielded one steatite seal bearing a humped bull with prominent dewlap and Harappan letters, a large terracotta amulet stamped with an impression of a seal having an unicorn and Harappan letters, a variety of beads of semi-precious stones, copper objects, terracotta cakes, bangles and bull figurines, stone objects, etc. A Harappan cemetery was found at a distance of 900 m to the northwest of the habitation site. A few

burials excavated reveal three types of burial customs at Farmana: primary, secondary and symbolic. All these different types of burials have numerous pots and jewellery in them as offerings. The present report deals with the finds from the excavations carried out in 2007-08 season and highlights the characteristic features of the regional Harappan culture in the Ghaggar basin.

The excavation team is grateful to the Archaeological Survey of India and the Haryana State Department of Archaeology for permission to carry out research at the site of Farmana. We are also grateful to the authorities of the Deccan College, Post-Graduate and Research Institute, Pune, India, Research Institute for Humanity and Nature, Kyoto, Japan and M.D. University, Rohtak, India for their support and encouragement. The large-scale excavation work was carried out successfully only due to the active participation of a number of individuals including Amol Kulkarni, Prabodh Shirvalkar, Jyotiram Deshmukh, Gauri Bedekar, Ayumu Konasukawa, S. Sharada, Nilesh Jadhav, Kanti Kumar, Vivek Dangi, Amrita Sarkar, Soumi Sengupta, Anupama Singh, V.G. Vishwasrao, T. Uno, H. Maemoku, H. Teramura, K. Malap, Anwita Datta, Neha Kothari and Gaur Goswami. Drs. M.D. Kajale and P.P. Joglekar visited the site for botanical and zoological studies respectively. Mr. Ranvir Singh and his son Jitender from the Farmana village provided a house in the village to accommodate us and our equipment and helped us to overcome difficulties at every stage.

The Indus Team is grateful to all these individuals for their co-operations and active supports to this project. We also thankfully acknowledge the support of the local people in the excavation operation and Mr. Amit for providing transportation during the course of the excavation.

VASANT SHINDE  
on behalf of the authors

## CHAPTER 1

# INTRODUCTION

The Ghaggar region of the northwest India being well watered and very fertile, attracted settled human life in the fourth millennium BCE. The region has witnessed development of a number of local Early Harappan cultures such as the Regional Hakra Culture Tradition, Siswal and Sothi cultures, etc. prior to the development of the Harappan Civilization in the middle of the third millennium BCE. The work carried out at sites like Kunal (Hissar District), Bhirrana (Fatehabad District), Girawad and Farmana (both in Rohtak District) in the state of Haryana revealed the process of the formation of the development of the urban culture.

The cultures like Regional Hakra Culture Tradition, Sothi and Siswal cultures flourished in the fourth and third millennia BCE in the Ghaggar Basin and they have been termed as the Early Harappan cultures by the present authors largely because they were directly connected in some way to the development of the Harappan culture. Many of the Harappan elements, including the ceramic assemblages, were developed by these cultures, which were continued and carried forward in the Mature Harappan period.

The evidence of structures from these sites enables to trace the gradual evolution of Harappan architecture starting from pit-dwellings through over-ground rectangular mud-brick structures in the Early Harappan to a fully developed grid-planned urban township in the Mature Harappan phase. This is remarkable evidence, suggesting a gradual origin of the Harappan Civilization.

The Early Harappan Regional cultures have also contributed to the development of the regional variations of the Harappan culture. Most of the

ceramic traditions developed by the regional Early Harappan cultures in this region have continued into the Mature Harappan phase as it is or with some minor modifications. Studies carried out on the contemporary regional Early Harappan cultures in different geographical divisions, including Sindh and Balochistan in Pakistan and Gujarat, Rajasthan and Haryana in India have revealed that certain ceramic traditions were commonly associated with all these different regional cultures suggesting their intra-regional contacts.

Out of the three sites, namely Girawad, Farmana and Mitathal, the site of Farmana was subjected to small-scale excavation last season (2006-07) to understand their significance and potentiality for further large-scale research, and the site was found ideal, where large-scale excavation was initiated this year (2007-08). The site of Farmana is being excavated by an international team with a view to understanding the following objectives:

- 1) To establish the characteristic features of the Early Harappan cultures in the Ghaggar Basin and place them in a proper chronological order. As mentioned earlier, a number of cultures prior to the development of the Harappan Civilization in the Ghaggar Basin flourished, the Regional Hakra Culture Tradition being one of them.

This culture needs to be placed in a proper chronological order in this region in relation to the Harappan Civilization and its spatial extent ought to be established. This is possible at the site of Farmana as it has both the cultures present in a proper stratigraphical context. The characteristic features of the Early Harappan Regional Hakra Culture

Tradition are yet to be properly understood due to the lack of systematic work on this culture.

The site of Farmana, only the second after the site of Bhirrana in Fatehabad District located roughly 60 km to the northwest of Farmana in the study area producing a separate horizon of the Regional Hakra Culture Tradition, is being excavated on a large scale and hence the opportunity to understand their structures, storage and cooking facilities, ceramic traditions, and other material culture (Rao *et al.* 2004, 2005 and 2006).

2) To establish characteristic features of the regional variations of the Harappan culture in the Ghaggar Basin. The earlier belief that the Harappan Civilization was a homogenous has turned out to be a myth. Within different regions in the Greater Indus Valley are found regional manifestation or variations (domains according to Possehl 2002).

The first scholar to point out this variation within the Harappan Civilization was J.P. Joshi (1984). Subsequently, Possehl (2002) has identified more than seven domains on account of geography, settlement and subsistence patterns and cultural materials. The excavations at Rojdi by Possehl and Raval (1989) were important from the point of view of identification of the regional variation of the Harappan Civilization in Saurashtra. It was noticed that the material culture associated with the Harappan culture at Rojdi in Saurashtra showed some differences compared to that found in the Sindh-Balochistan region termed by Possehl as "Sindhi Harappan Domain". This was found true for the entire Saurashtra region. This difference was treated as a regional variation of the Harappan culture in Saurashtra, which was termed "Sorath Harappan" (Possehl and Herman 1990).

Similar regional difference in the material culture, more particularly in the ceramic assemblages of the Harappan sites in the Ghaggar Basin is visible. The present research will try to establish the characteristic features of the regional variations of the Harappan

Culture in the Ghaggar Basin.

3) To understand the causes and characteristic features of the regional variations of the Harappan culture in the study area and the role of the Early Harappan cultures in the making of the Harappan elements. There is a need to explain why such variations have occurred in the material culture of the Harappan period in this area.

A number of regional Early Harappan cultures flourished in various parts of the Harappan region and these early cultures have contributed to the development of the Harappan elements in each region. Naturally, therefore, the features of the Early Harappan cultures persisted through the Mature phase in those respective regions (Shinde *et al.* 2006).

In the Sindh-Balochistan region, the elements of the Early Harappan Amri-Kot Diji cultures dominated the assemblages of the Mature Harappan phase, whereas in the Ghaggar Basin the elements of the early Sothi-Siswal continued in the Mature Harappan phase. The so-called Sorath Harappan phase evolved out of the Padri Early Phase (Shinde 1998) and hence the continuation of the Padri elements in the Harappan phases in Saurashtra.

The present research will seek to explain the development of the Harappan elements in the Ghaggar Basin and to study the contribution of the early cultures in the making up of the Harappan Civilization and its regional variation in this region.

4) To study town planning of the Mature Harappan phase at the site from the socio-economic point of view. In the central portions of the site, the remains of the Mature Harappan phase have been well preserved. As this part of the site may be destroyed in the process of agricultural activities by the farmers in near future, it was decided to concentrate on this area in 2007-08.

As the area available is vast and structural remains are close to the surface here, it was decided to excavate this large patch of the site with a view to uncovering

structures and other features of the Mature Harappan phase, which will enable reconstruction of the socio-economic aspects of the Harappans. The amount of data that was recovered from this area is indeed very vast and the work on the reconstruction of socio-economic aspect is in progress.

5) To generate more data to understand Harappan script and language. In spite of various attempts for last several decades, the Harppan script has not yet

been deciphered. The most recent work by Steve Farmer, Richard Sproat and Michael Witzel (2004) has even claimed that the Harappans were illiterate and that they did not have proper script.

There is a need of additional fresh data and combined efforts of archaeologists and linguists with new approach to tackle with this problem. A fresh beginning can be made through this project as it involves both archaeologists and linguists.

(V. SHINDE)

## CHAPTER II

### SITE AND ITS ENVIRONMENT

The ancient site (29°02'22"N and 76°18'21"E) that falls in the territory of three different villages: Farmana, Seman and Bhaini Chandrapal (Bada Bahen), all in the jurisdiction of Meham block of Rohtak district in the state of Haryana, is locally known as Daksh Kheda. Since major portion of this site lies in the jurisdiction of Farmana village, it is considered a part of that village. The survey at the site revealed a very extensive area under occupation measuring over 18 ha in size (Shinde *et al.* 2008). This makes it the second largest Harappan site in Haryana,

next only to the site of Rakhigarhi. The major portions of the site, particularly along the periphery and also the upper levels of the Mature Harappan period, have been destroyed as the entire site is under cultivation. The central portion of the site, i.e. approximately 80 m by 60 m, is relatively intact, whereas the peripheral area has been flattened to the almost natural level due to agricultural activities (Figures 2 and 3).

The area, which is relatively well preserved, has Early Harappan (Regional Hakra Culture Tradition)

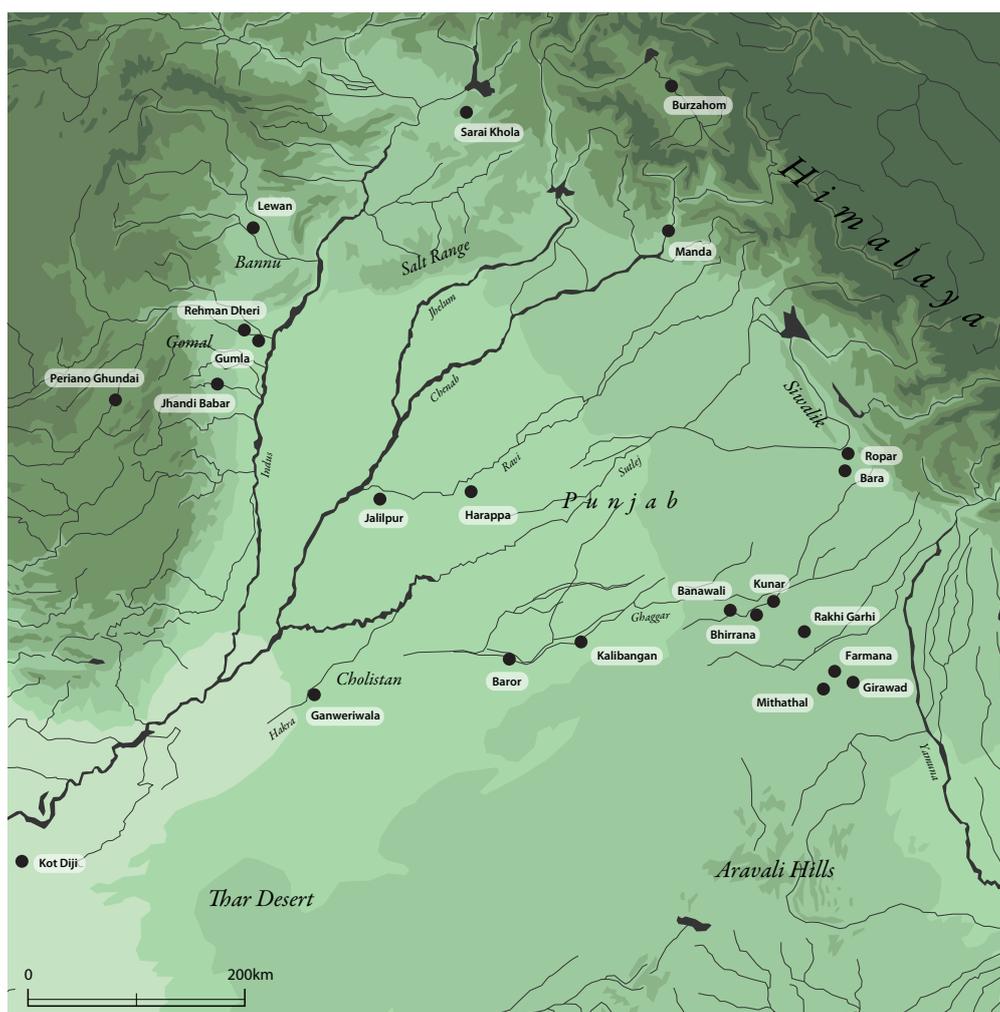


Figure 1 Farmana Map showing the distribution of excavated sites in the Ghaggar Basin



Figure 2 Farmana A general view of Main Mound, from east

and Mature Harappan deposit, whereas the flattened portion along the periphery has more Early Harappan material.

The site of Farmana, one of the extensive and rich Harappan sites in Haryana, seems to have flourished mainly because of the availability of very fertile agriculture land (Figure 4) and the source of water in its catchment area. It may have attained lot of importance because of its close proximity to the site of Rakhigarhi (33 km to its northwest) and due to its location on the trade route to the site of Harappa. Farmana may have controlled trade and played very important role in the Harappan economy.

The site is not located to the proximity of any river, but in the catchment area of the Chautang River, a major tributary of the main Ghaggar River falling in the middle Ghaggar Basin. The water level in this area is quite high and besides, in the vicinity of every village, is found either natural or man-made lakes or wells. The Harappans at Farmana may have dug wells

for their water necessity. This is suggested from the presence of a few wedge-shaped burnt bricks (usually used for well construction) found on the surface of the site. While ploughing their fields, two of the owners of the site came across remains of at least two wells, one towards the southern and the other towards the western periphery of the site. The archaeological excavation has yet to unearth a Harappan well.

The Ghaggar Basin lies mostly in the states of Haryana and Rajasthan. The geological formation of the state of Haryana range from Pre-Cambrian to the recent times and can be divided into Aravali system, Siwalik system and alluvial plains. Aravali hills are the oldest formations present to the south and west of the Chautang Basin, which is composed of quartzite, quartzitic sandstone, mica schist and crystalline limestone. The Siwalik system is located to the northeast of the Chautang Basin basically composed of sedimentary rocks. The Chautang plain is formed of deposition of alluvial sediments. The whole expanse

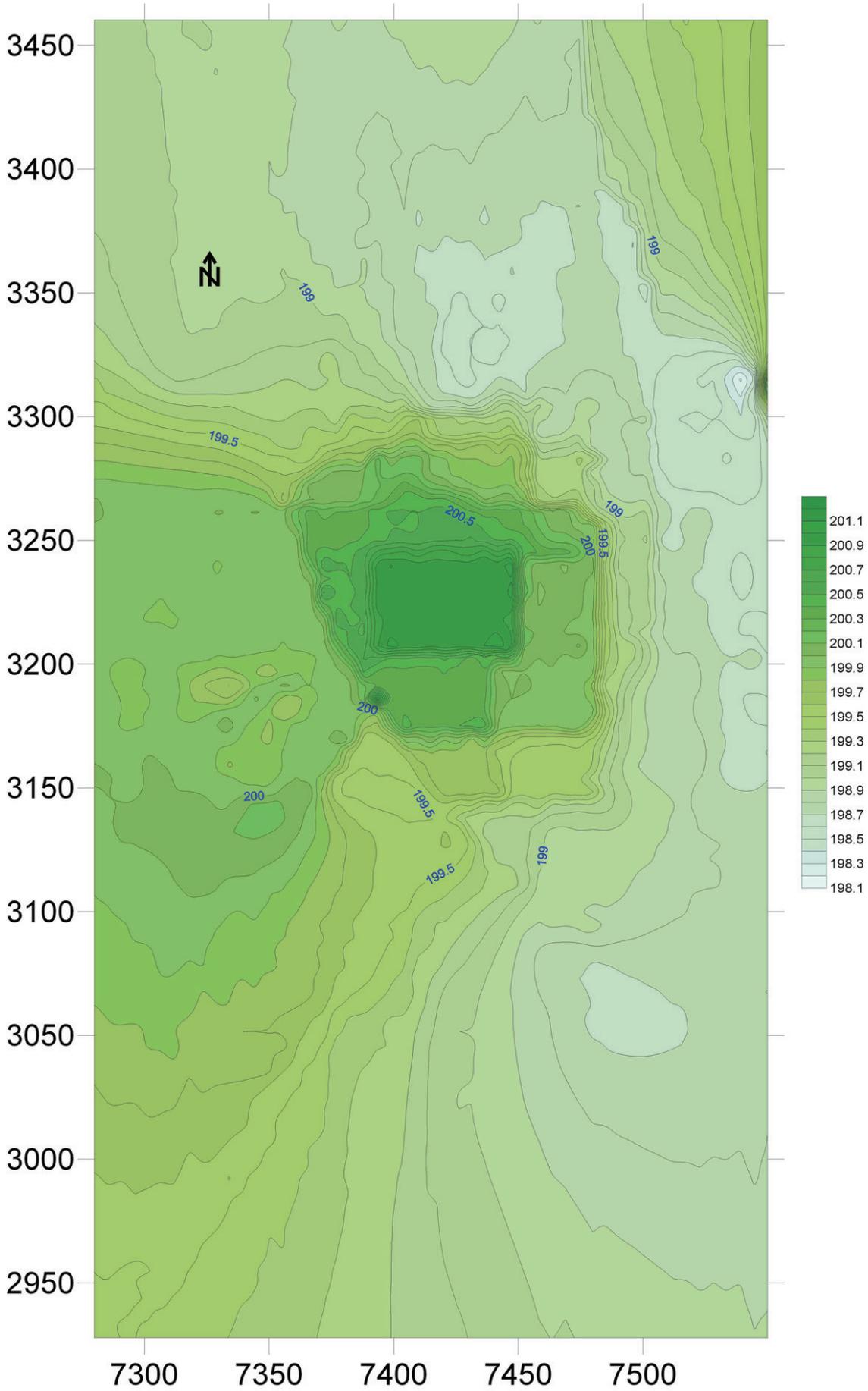


Figure 3 Farmana Contour map of Main Mound and its surrounding



Figure 4 Farmana General landscape around the site

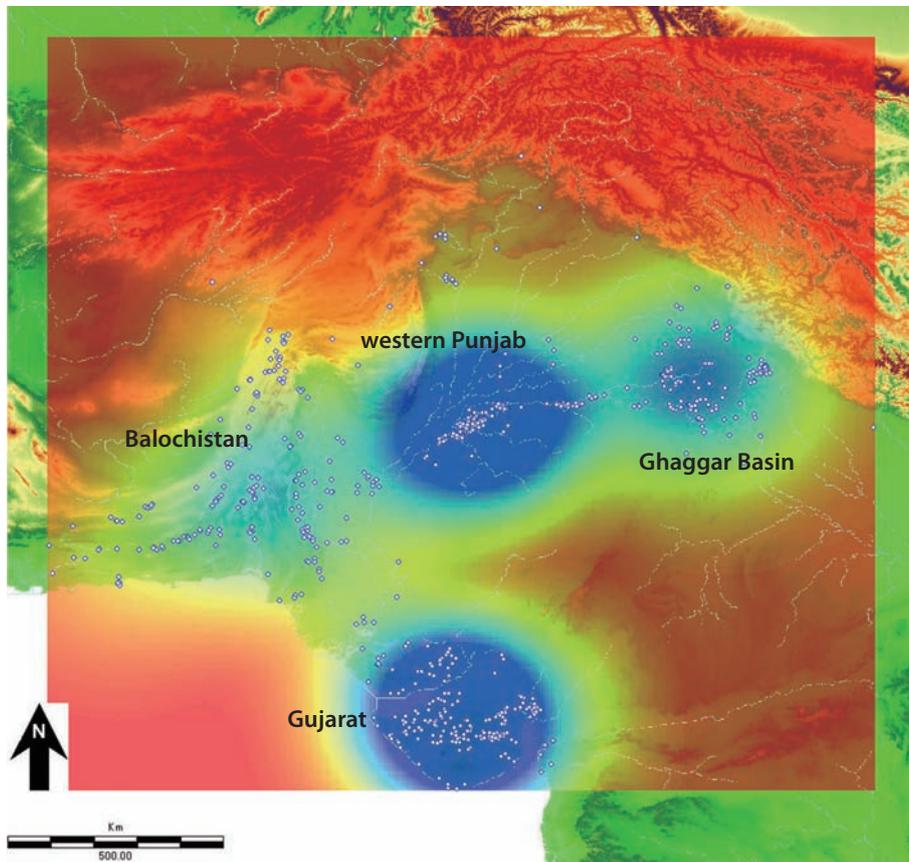


Figure 5 Distribution of Harappan sites in the northwestern part of the Indian Subcontinent

of the alluvial plain with relict channel beds of the Chautang and Ghaggar Rivers have occasionally shifted their beds in the Holocene times leaving interlocked alluvial plains along its receding course<sup>1)</sup>. The thickness of the alluvium deposit varies from 100 m to more than 400 m at places. Thus, hard rock geology of this area is concealed under alluvial and aeolian deposits.

The main physiographic units in this area are Chautang flood plains and aeolian plains. The relict course of the Chautang River are filled-up with sediments causing differences in the physiographic positions. Topographically, the Chautang Basin is flat and monotonous upland plain today. The crops very well supported by this fertile soil include the major *kharif* crops (*bajra*, maize, *jowar*, cotton, rice and sugarcane) and the *rabi* crops (wheat, gram, barley and mustard).

The Ghaggar River system (which also includes Chautang) emerges from the lesser Himalayas and piedmonts and passes through the Indian states of Haryana and Rajasthan and then enters into the Bahawalpur region of Pakistan. In the central and

southern Haryana, shifting channels of the Chautang River have been identified between the Ghaggar and Yamuna Rivers. The Chautang River, a major tributary of the Ghaggar River, is also a seasonal stream in its upper course. The Ghaggar and Chautang Rivers, though dry now, seem to have been important in the past, mostly during the Early and Mature Harappan periods, as surveys in this regions have revealed heavy concentration of sites of that period (Figure 5).

The Chautang River (very often identified as *Rigvedic* Drishdvati) was a major feeder to the Ghaggar (very often identified as *Rigvedic* Saraswati) in the past, most probably until around 2000 BCE. The Chautang River rises in the Siwaliks, close to the Ghaggar River and they both flow parallel to one another for some distance, but the Chautang River takes a more southerly course. It turns west, passes Hisar and the well-known archaeological sites of Rakhigrahi, Siswal, Sothi and Nohar. It joins the Ghaggar near Suratgarh, where the Harappan site of Kalibangan and Early Historic site of Rang Mahal occupy places of prominence.

#### Notes

1) Most of the information on the ecology of the Ghaggar and Chautang Basins has been supplied by Mr. Tejas Garge who is working in this area for his Ph.D. research. The authors are grateful to him for this.

## CHAPTER III

# RESEARCH METHODOLOGY

In order to understand the cultural and ceramic sequence of the site, three index trenches, each of 5 m by 5 m were laid on the highest point of the habitation mound, which is located almost in the centre of the site.

The first index trench (Trench 1) was located 20 m to the north and 5 m to the west of the datum point. The second trench (Trench 2) was located 10 m further north from the first index trench and the third index trench (Trench 3) 20 m further north and 10 m west from the second index trench. The trenches were given simple Arabic numbers starting from the trench located on the highest point.

Excavations could not be continued down in the lower levels in Trenches 1 and 2, because of the discovery of brick architecture in them, whereas we managed to reach the natural soil in Trench 3. It was possible to obtain a complete stratigraphy and cultural sequence from these three index trenches in a stepped manner. After discovering brick architecture in Trench 1, a few more trenches to its south, east and west were opened for horizontal excavation with a view of tracing the structure.

In order to study town planning of the Mature Harappan at the site, the highest portion of the site was selected and gridded by 5 m by 5 m trenches. It was also decided to open one more trench immediately to the north of Trench 3 that was excavated last year. The purpose of this trench was to excavate material from the Early Harappan level and trace on plan the dwelling-pit that was partially exposed in Trench 3 in the season of 2006-07. It was decided to treat each segment of the surviving topographical feature of the site as a distinct locality within the site. This was done mainly for the sake

of convenience and also considering the terraced nature of the surviving site. The highest portion of the mound is treated as Locality 1 which is confined mostly to the centre roughly over an area of one and half acre. The middle portion of the site that is all around Locality 1, roughly 30 to 50 cm below the level of Locality 1, is treated as Locality 2. The owner of this locality is different. The lowest levels of the site, 30 to 40 cm down from the Locality 2, spreading on all its direction and forming the maximum portion of the habitation, is treated as Locality 3 (Figure 7).

One of the main aims of this year's excavation was to uncover structures of the Mature Harappan phase to study their town planning and socio-economic organizations. To fulfil this aim, a major portion of Locality 1 was selected and gridded for excavation. In all, 43 trenches measuring 5 m by 5 m were opened in this locality. The trenches which were open this season (2007-08) to the south and west of the area (excavated last year in Locality 1) are as follows (Figure 7).

Trenches that were open to the south of the area last year include:

- 1C1 (SE quadrant)
- 1D1 (western half)
- 1E1 (NW, SW and SE quadrants)
- 1E, 1F1, 1G1

Trenches located to the west of the trenches mentioned above are as follow:

- 1A2 (SE and SW quadrants), 1A3, 1A4 and 1A5 (SE and SW quadrants)
- 1B2, 1B3, 1B4, 1B5 and 1B6
- 1C2, 1C3, 1C4, 1C5 and 1C6
- 1D2, 1D3, 1D4, 1D5 and 1D6

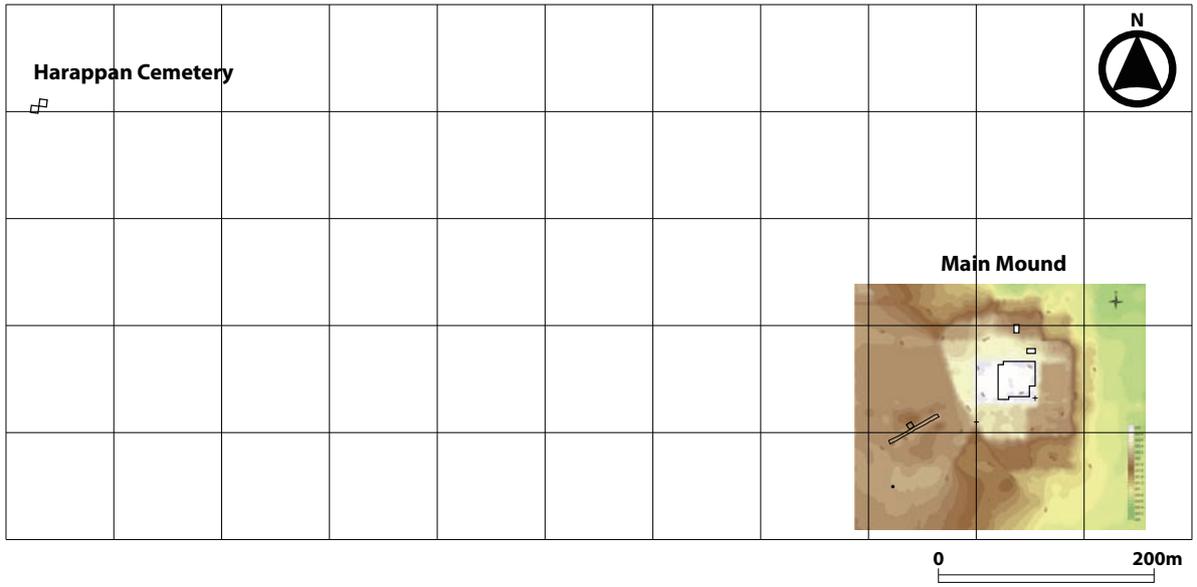


Figure 6 Farmana Plan showing the locations of Main Mound and Cemetery site

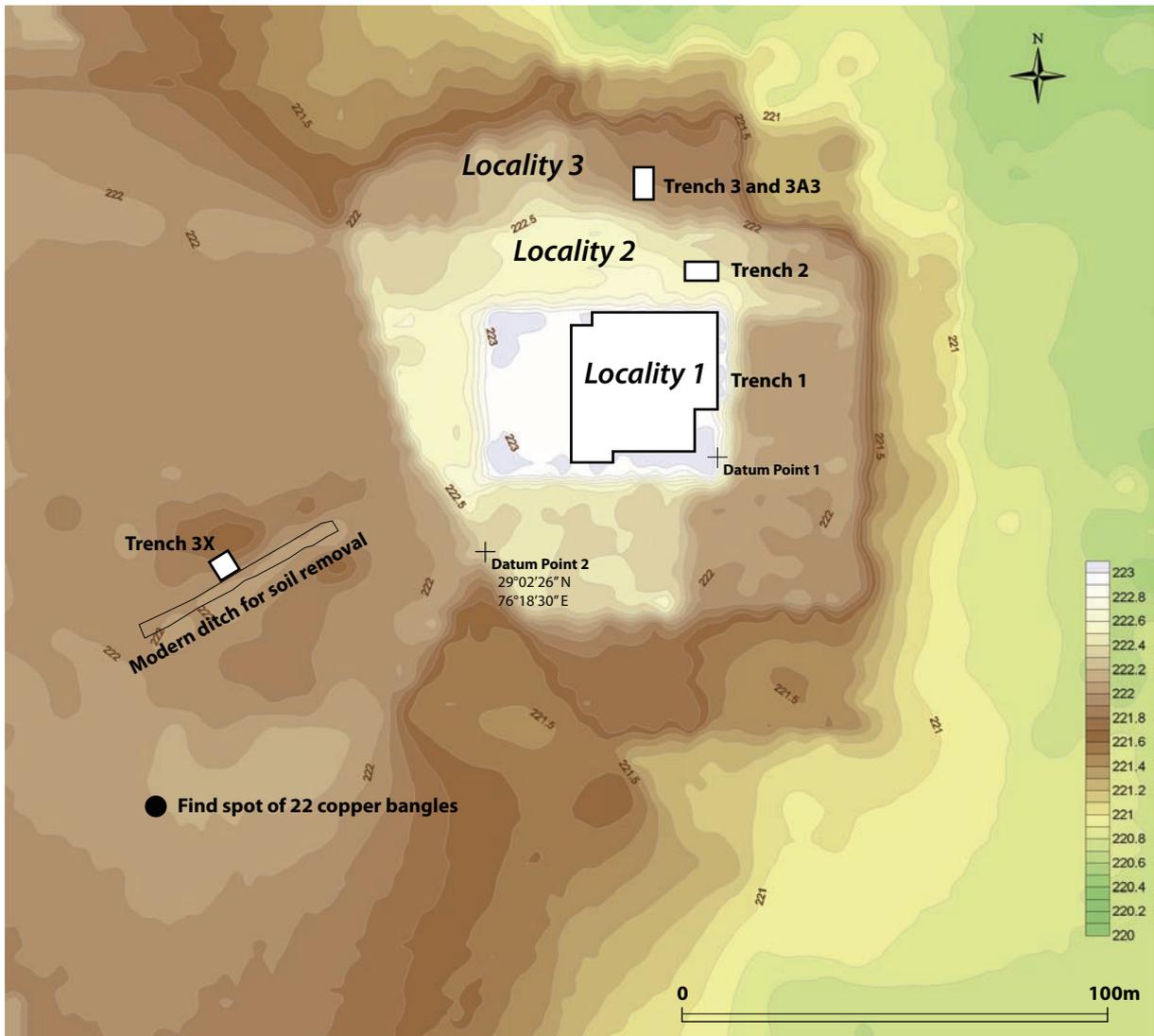


Figure 7 Farmana Contour map of Main Mound showing localities and trenches

1E2, 1E3, 1E4, 1E5 and 1E6  
1F2, 1F3, 1F4, 1F5 and 1F6  
1G2, 1G3, 1G4, 1G5 and 1G6  
1H5 and 1H6 (northern half)

Besides the above-mentioned trenches, two trenches of 5 m by 5 m were selected for excavation. Trench 3X, 115 m to the west and 27 m to the south of the datum line and 3A3, 66 m to the north and 17 m to the west of the Datum Point were selected for excavation.

Trench 3X was aimed at exposing some of the Early Harappan pits visible along the section of the channel made by the farmer for lifting the soil, whereas Trench 3A3 was to expose in its entirety last year's partially excavated pit-dwelling. Due to the presence of floors, walls and fire places of the Early Mature Harappan phase, digging could not be continued further down to the Early Harappan levels this season.

One of the significant discoveries of this season

was a cemetery of the Mature Harappan period at an approximate distance of 900 m to the northwest of the main habitational site of Farmana (Figure 6). Mr. Vikas Pawar and Mr. Vivek Dangi, Ph.D. students of the Department of History, M.D. University, Rohtak, accidentally discovered this cemetery.

The farmer from the Semen village who was slicing the upper layer of the soil with the help of tractor, found some fragmentary human bones and lot of complete and broken pots from this area. These finds were handed over by the farmer to the students. On extensive and intensive observations, the students could see human skeletons and complete pots in the section of the ditch made in the middle of the field by the owner for lifting soil.

The human bones and broken pots are spread over an area of 1 ha. Although the cemetery falls in the jurisdiction of the Semen village, it is named as Farmana Harappan Cemetery due to its association with the Farmana habitation site.

## CHAPTER IV

# STRATIGRAPHY AND CULTURAL SEQUENCE

### STRATIGRAPHIC SEQUENCE

All eight habitation layers were identified in all these three index trenches, which were overlying the natural alluvium silt soil, which was numbered as Layer (9). The first two layers were excavated in Trench 1. Layer (3) and part of Layer (4) were excavated in index Trench 2 and the remaining Layers (4) to (8) in Trench 3.

#### Layer (1)

It is a highly disturbed layer due to ploughing and hence is very loose and contains mixed artefacts. It is dark greyish in colour and the thickness varies from 5 cm to 12 cm.

#### Layer (2)

It is light greyish in colour, compact and undisturbed, made of fallen debris of the mud structure. It is relatively horizontal both on the top and the bottom. It contains potsherds at places, both small and large. The average thickness of the layer is 21 cm.

#### Layer (3)

Layer (3) resembles Layer (1) in terms of colour and compactness but is relatively better preserved and undisturbed. It is relatively horizontal at the base. It is made of typical mud wall debris. The average thickness is 18 cm.

#### Layer (4)

Layer (4) is brownish in colour, slightly compact and made of mixed material, consisting of mud and mud brick structural debris. It is relatively horizontal, both at the top and the base. It has got a few holes probably

made by rodents and small and big pits. It contains clay lumps and few potsherds that are unevenly distributed. The average thickness is 22 cm.

This layer also was noticed in the upper level of Trench 3 where it is behaving uneven at the base. It broadens from 10 cm in the east to 25 cm to the west. The upper part of this layer is disturbed, as this is the ploughed zone area in this trench.

#### Layer (4a)

In the middle of the section is a long and shallow depression in which two layers are found. Only the upper layer, which is confined to this depression, has been labelled as (4a). It is greyish in colour, hard, compact and is made of clay. The depression, which starts at a distance of 1.10 m from the southeastern peg, measures to a length of 2.26 m. This sub-layer is thick (12 cm) in the middle and tapers at both the ends gradually. It contains burnt clay clots, terracotta cakes and tiny potsherds.

#### Layer (5)

This layer, ashy in colour and made of ash and burnt clay lump, is very loose and brittle. In the parts of the eastern side for a length of 80 cm, it is straight and horizontal from where it starts chipping in the middle. It gradually rises towards the western end, where it becomes very thin (3 cm). The average thickness of the layer is 13 cm.

#### Layer (6)

It is slightly blackish (dark greyish) in colour, very hard possibly made of floor levels. This layer rises on both the ends and sinks slightly in the middle in the area where the depression was noticed. It



Figure 8 Farmana Layers (1) and (2) in the northern section of Trench 1



Figure 9 Farmana Layers (3) and (4) in the southern section of Trench 2



Figure 10 Farmana Layers (4a) to (9) in the southern section of Trench 3

contains a few large potsherds and small fragments of pottery in the middle, which is actually a part of the depression. In the remaining portion it is more or less homogeneous.

#### Layer (7)

This layer to a length of 1.30 m from the baulk line of the southwestern corner is divided into two parts because of the presence of a thin (3 cm) strip of burnt material. The thickness of the lower portion varies from 10 cm to 14 cm. This layer in the eastern half for a distance of 2.15 m is compact, more or less horizontal, very hard and slightly light greyish in colour. This portion is homogeneous but in the upper portion contains a few large potsherds. The remaining portion towards western part is light greyish, slightly loose and contains a numerous small potsherds, charcoal bits and ash evenly distributed. This variation is due to the presence of a pit in this part of the layer. The average thickness of the layer is 25 cm.

#### Layer (7a)

Layer (7a) is confined to the eastern side of the section. Its total length is 1.60 m. As sub-Layer (7), it is separated from the main Layer (7) on account of its colour which is light greyish, loose in nature and its contents consisting of charcoal bits at places.

#### Layer (8)

Layer (8) represents the earliest occupation at the site. It is cut by the later pit for a length of 1.17 m. It continues beyond the pit line in the southwestern corner. This is the most homogeneous layer made of fine silt and habitation debris mixed together. It is slightly hard and even in nature. It is horizontal both at the top and the base. The average thickness is 18 cm.

#### Layer (9)

This is the natural level that is homogenous, compact and made of fine sand, silt and alluvium mixed

together.

## CULTURAL SEQUENCE

On the basis of the nature of the layers and their contents, it appears that Layers (7), (7a) and (8) belong to the pre-Harappan phase. It is 50 cm thick. Layer (6) appears to be a transition from Early to Mature and the first five layers belong to Mature Harappan period.

### Period I Pre-Harappan

The first settlers at the site began their life style with modest dwellings consisting of mostly underground structures, either circular or oval in shape, but their other material culture seems to be well developed. This no doubt suggests that the first settlers came to the site from elsewhere with ready craft technology. They used very advanced pottery making and firing technology and produced a variety of wares, such as Mud Appliqué, Incised, Chocolate Slipped, Reserve Slipped, Grooved wares, etc. The copper and lapidary crafts were well developed and the people had already developed long-distance trade contacts for acquiring suitable raw materials and circulating finished goods.

The excavation at Farmana and a few other sites in the Ghaggar Basin revealed that the early culture remained rural in character. The urbanization was a gradual process in this region and it was fully achieved only in the Mature Harappan phase in the middle of the third millennium BCE.

The report on the work carried out in the season of 2006-07 has already been published in *Occasional Paper: the Language, Archaeology and Human Past* vol.3 of the Indus Project (Shinde *et al.* 2008). The

present report does not deal much with Period I mainly due to the fact that very limited excavation was carried out on the early levels at the site this season. It was mainly confined to the upper part in Period II (Mature Harappan).

### Period II Mature Harappan

The Mature Harappan period at the site marks the culmination of the cultural process that began in the early stage at the site, which is reflected in their settlement pattern and cultural material. It seems likely that the entire 18 ha area was occupied during this period suggesting expansion of the population and attainment of prosperity.

Elaborate remains of well-built and planned brick structures, superior ceramic assemblages, presence of seal and sealing and rich cultural material excavated so far, all point towards the attainment of urbanization in this period. The Mature Harappan phase can tentatively be dated to between 2500-2100 BCE on the basis of seal and sealings and ceramic assemblages found in the excavations.

The excavation in a large horizontal area has unearthed a part of the well-planned settlement during the Mature Harappan period. The excavation has provided a very good account of the structural development activities from Period I (Regional Hakra Culture Tradition) to Period II (Mature Harappan). The first settlers, as the evidence suggests, built underground circular or oblong structures, very often referred to as pit-dwelling (Shinde *et al.* 2008). Gradually the people of the next generation changed to rectangular structures, which continued until the emergence of the well-planned town in Period II, around 2500 BCE.

## CHAPTER V

### EXCAVATION IN TRENCHES 3X AND 3A3

#### TRENCH 3X

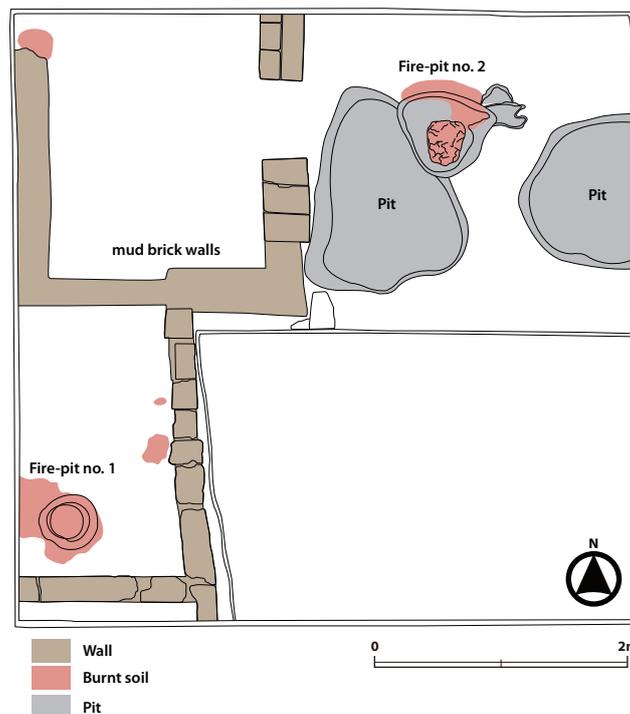
Trench 3X is located in Locality 3, 117 m to the west of the Datum Point, by the middle of the deep ditch dug by the owner of the field to cart soil from the habitation. The main aim of this trench was to excavate pits and pit-dwellings visible along the cut section of the ditch. The farmer removed the upper deposit of the habitation debris during ploughing, and hence much of the deposit of the Mature Harappan Phase has been razed. Only a thin deposit of the early Mature Harappan has survived above the Early Harappan Hakra Culture Tradition (Period I). The remains excavated in this trench belong to the transition from Early to Mature Harappan at the site.

Immediately below the surface at a depth of 30 cm

was found a mud brick structure which has partially survived in the NE, NW and SW quadrants of Trench 3X (Figure 11). Parts of the southern, western and eastern walls have survived, all of which are made of a single brick line. The structure belongs to the Mature Harappan period and this is confirmed by the presence of typical Harappan pottery and the brick ratio (1:2:4).

The southern wall of this structure has survived to a length of 1.65 m and runs in the north-south direction. Its average width is 40 cm and runs along the southern section of the trench. Only the basal course of the brick wall has survived.

The southern part of the eastern wall of the structure, located 1.60 m to the east of the western section of the trench, runs straight in the north-south



Figures 11 Farmana Plan of excavated features in Trench 3X (1:60)



Figures 12 Farmana Mud brick wall and FIRE-PIT NO. 1 in Trench 3X, from west



Figures 13 Farmana FIRE-PIT NO.2 in Trench 3X, from west

direction for a length of 2.80 m, then takes a 90° turn and runs straight towards the east for a distance of 90 cm. It again takes the direction from east to west, a length of 2.05 m being exposed. In the centre of the survived wall at a distance of 90 cm is an opening which is 85 cm in width. The average thickness of this wall is 35 cm. The northern wall is confined to the northern side of the trench along the northern margin. It is exposed to a length of 2.35 m. The total width of the exposed wall measures 25 cm. There appears to be a partition wall in this structure. It is located 2.50 m to the north of the southern section. It is 1.95 m in length and 25 cm in width. The structure has two rooms. The one on the southern side has been excavated over an area of 2.50 m from north to south by 1.50 m from east to west.

A circular underground fire-pit (FIRE-PIT NO. 1) was exposed in this room. It is 66 cm to the north of the southern section and 23 cm to the east of the western section. This fire-pit is made *in situ* in a cylindrical pit of double clay rings, the inner being 3 cm and the outer 5 cm in thickness. The inner diameter of the fire-pit is 30 cm and has survived to a depth of 15 cm. The perfectly vertical sides and the flat bottom are plastered, which have been burnt red due to constant use. Inside the fire-pit was found ash and burnt black clay. This part of the structure can be identified as kitchen (Figures 12).

The room of the structure located to the east of the one described above, is 1.95m (inner) and 2.20m (outer) in width and is exposed to a length of 2.05 m (inner) and 2.40 m (outer). Both the rooms have very well-rammed and plastered floor.

Another fire-pit (FIRE-PIT NO.2) was found on the outer side of the above room to its east, which is roughly circular in shape (see Figure 13). It is located 80 cm to the east of the eastern wall of the room and 60 cm to the south of the northern section. There is a central clay stump in this fire-pit which is also partially cut. The fire-pit has survived to a depth of 15 cm and its sides and bottom are made of clay, which

have turned to brick-red due to intense burning. The clay stump inside is roughly rectangular in shape measuring 40 cm from north to south by 25 cm from east to west. This fire-pit appears to be a domestic oven. The clay stump inside may have been used for supporting cooking vessels. Similar fireplaces have been reported from the Chalcolithic site of Inamgaon in the Deccan region, dated to the middle of second millennium BCE (Dhavalikar *et al.* 1988).

### Trench 3A3

Trench 3A3 is located immediately to the north of Trench 3 with a view of tracing the plan of the dwelling-pit partially excavated in Trench 3 in the previous year of 2006-07 (Figure 14). On the baulk of these two trenches, a mud-brick wall running in slightly southwest-northeast direction was discovered. Structures right from the beginning to the end of Mature Harappan phase at Farmana were oriented in this general direction.

In the season of 2006-07, part of this wall that falls in the NW quadrant of Trench 3 was accidentally dug through. However, it was exposed in the southern half of Trench 3A3 at a depth of 15 cm from the surface. The wall continues further towards the east. It has been excavated to a length of 3.75 m and its average width is 50 cm. The wall has survived to a thickness of 70 cm, seven brick courses of which are visible.

Along this wall to its north are located two features in a row, a fire-pit and a storage jar (Figures 14 and 15). The fire-pit, roughly squarish with its northern edge in a semi-circular form, is located 1 m to the west of the eastern section along the wall. It is very shallow (7 cm) and measures 60 cm from east to west by 65 cm from north to south. The sides and the flat bottom are smooth and burnt black. To its west at a distance of 40 cm is a globular jar of sturdy Red ware (Figure 15). It is medium thick in section, the upper half and the base of which are missing. Its diameter at the waist is 45 cm.

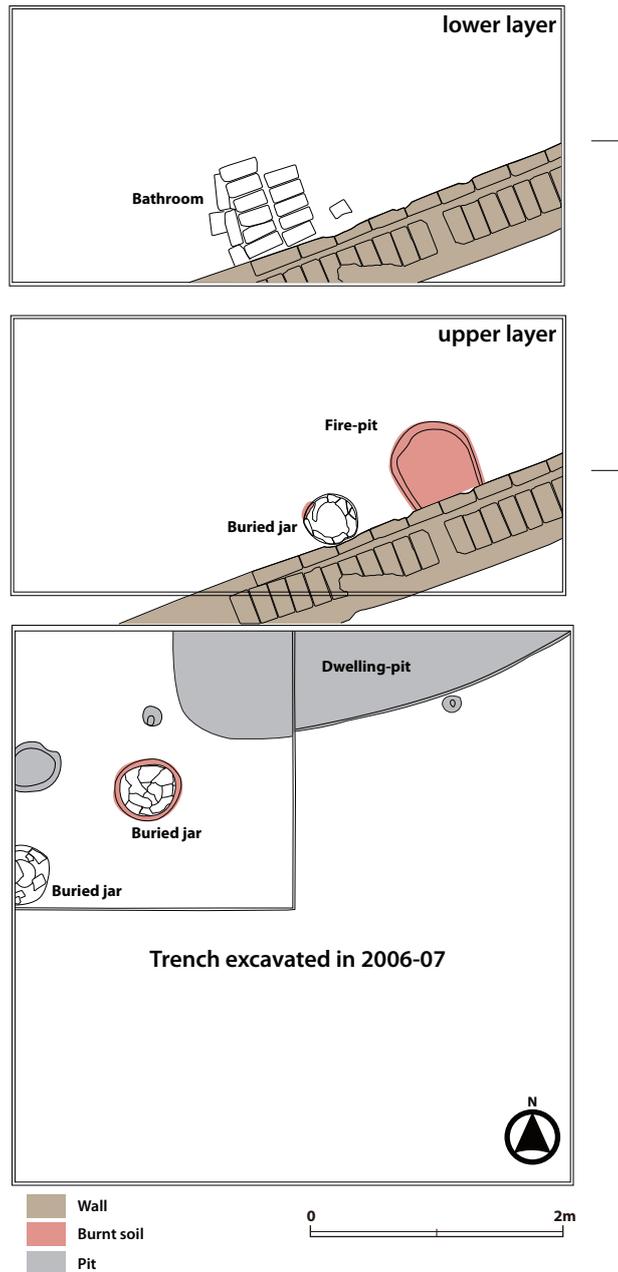


Figure 14 Farmana Plan of excavated features in Trench 3A3 (1:60)

The earlier level of the mud wall described above and a part of the western wall along with the possible remnants of bathroom have been excavated immediately to the north of the wall (Figure 16). The western wall, which has survived to a length of 1.40 m, runs in the slightly southeast-northwest direction. The remaining portion of the wall has been cut by a later pit. The wall is 50 cm broad.

In the southwest corner of the structure is possibly a bathroom made of wedge-shaped burnt bricks

arranged in an opposite direction. The average size of the brick is 26 cm long and the width of the ends varies from 13 cm to 10 cm. The remains of bathroom have survived over an area of 66 cm from east to west by 72 cm from north to south. The burnt bricks have been set in mud mortar and arranged in such a way that it slopes towards the east and merges with the floor. The floor of the structure is very well made of alternate layers of clay and silt, rammed hard and plastered. The inner portion of the main wall running



Figure 15 Farmana Mud brick wall and two features in the upper level of Trench 3A3, from southeast



Figure 16 Farmana Bathroom with baked bricks in the lower layer of Trench 3A3, from northeast

roughly in the southwestern-northeastern direction is lined with 5 cm thick plaster.

To the west of the western wall is probably a mud platform, which is 1.40m broad from north to

south and is exposed to a maximum length of 1.25 m. It continues further towards the west in another portion. The thickness of the platform is 30 cm.

## CHAPTER VI

### EXCAVATION IN TRENCHES 1 AND 2

#### MATURE HARAPPAN STRUCTURAL REMAINS

The remains of a few mud brick structures excavated from the Mature Harappan levels at the site point to the adoption of modicum of planning. The brick-size used for construction is typical Mature Harappan ratio of 1:2:4. Two structural phases have been excavated so far.

Of the excavated structures, STRUCTURE COMPLEX NO. 1 belongs to the early phase in the Mature Harappan period, tentatively assigned to c. 2500-2300 BCE and STRUCTURE COMPLEX NOS. 2, 3 and 4 of the late phase of the Mature Harappan period, tentatively assigned to c. 2300-2000 BCE. These phases are identified on the basis of their relative positions in the stratigraphy and the associated pottery and other objects. The other features like construction method, brick size, nature and the type of raw material used for construction are common in both the phases.

#### STRUCTURE COMPLEX NO.1

##### STRUCTURAL PHASE I:

##### EARLY PERIOD II

At the base of Layer (3), a mud brick structure which is oriented 30° in the southeast-northwest direction was encountered. It is a roughly rectangular residential structure (Figures 17 and 18). It has survived only by its foundation. The structure is almost complete as all its four walls have been excavated. From the inner side, it measures 3.60 m from north to south by 2.60 m from east to west. The northern wall of the structure, which has survived by a single course, is 2.20 m long, 30 cm wide and has survived to a height of 34 cm. The house was provided with a broad foundation which is visible in this particular wall as well as in the eastern and western walls. Two post-holes are visible on the top of

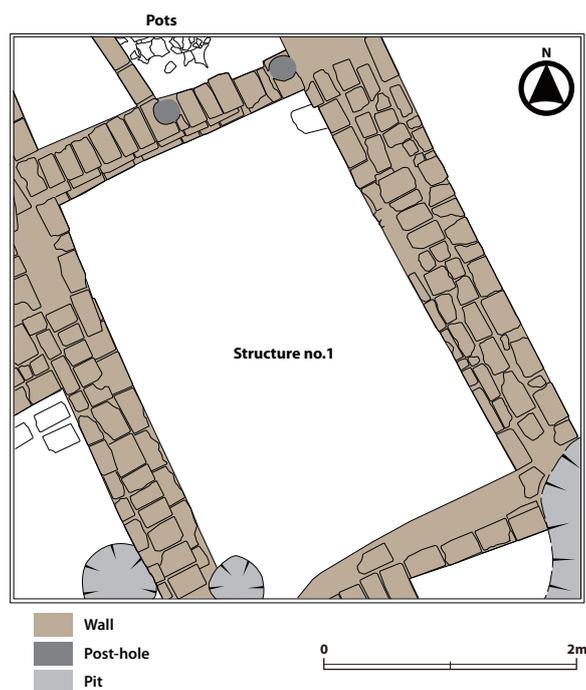


Figure 17 Farmana Plan of ST. NO. 1 in Trench 2



Figure 18 Farmana General view of St. NO. 1, from east

the northern wall.

The southern wall was exposed along the southern section of the trench. There appears to be an entrance (65 cm wide) in the southwest corner of the structure. The total length of the wall is 2.65 m and is 35 cm broad. The foundation and the course of the wall are symmetrical and overlies with each other unlike the northern wall. The bricks are set in yellow mud mortar. The southeast corner of the structure has been damaged by later pits.

The eastern wall, 4.45 m in length and 70 cm broad, has survived to a height of 50 cm. Two courses of mud bricks of the wall have survived. One post hole on the inner side of the wall is noticed. The western wall of the structure, which has also survived in a fine condition, is 3.85 m long and 40 cm broad. It has survived to a total height of 22 cm. This wall continues beyond its corner towards the northern side suggesting the presence of multiple rooms.

The floor of the structure has been damaged but

some portions on the outer side of the structure, which can be associated with this structure, are well-made with bricks and clay. Inside the structure almost at the centre a typical Harappan steatite seal was discovered (Figure 107). The seal has a symbol of the water buffalo and a few Harappan letters on top. Outside the northern wall of the structure is the remains of a large dish-on-stand and a couple of globular pots of medium size. In all probability this is a domestic structure, of which only one chamber has been excavated (Shinde *et al.* 2008).

## PARALLELOGRAM TOWN PLAN IN LOCALITY 1

### STRUCTURAL PHASE II: LATE PERIOD II

While excavating 43 trenches horizontally in Locality 1, the remains of a parallelogram town planning were unearthed. Three huge complexes separated by MAIN STREET and LANE NO. 1 were excavated (Figure

19). STRUCTURE COMPLEX NO. 2 located to the east of MAIN STREET was partially excavated last season (2006-07) (Shinde *et al.* 2008). STRUCTURE COMPLEX NO. 3 located to the west of MAIN STREET and STRUCTURE COMPLEX NO. 4 to the south of the east-west running lane were discovered and partially excavated this year.

The entire town is arranged 30° in the northwest-southeast directions. All the complexes, streets and lanes follow this pattern. All the structures excavated were at a depth of 25-30 cm below the surviving surface and seem to belong to the late phase.

Two or three basal courses of mud bricks in the ratio of 1:2:4 have survived whereas the walls have all been uniformly razed to ground. The possibility is that the walls were made of either mud or mud bricks or, as in the case of the site of Harappa, even of burnt bricks on these mud brick foundations. Since the site was razed to the present level for converting it into agriculture field, the traces of walls have been completely obliterated.

The Harappans used burnt bricks for their bathrooms and drainage at Farmana and it is quite likely that they used such burnt bricks for building their walls too. People in the village of Farmana is following this method of construction even today.

The other important point to be mentioned here is that the vicinity of Farmana in present day is the main brick manufacturing area in Meham Block of Rohtak District because of the availability of raw material (clay) of superior quality here. There are more than half a dozen very large brick-firing kilns with very high chimneys in the jurisdiction of Farmana. Each kiln is capable of firing almost a million bricks at a time. Today, brick manufacturing has become a full time occupation for many families in and around Farmana.

The Harappans here could make such good mud bricks, because of the availability of this clay of fine quality in the catchment of Farmana. Most of the Harappan bricks at Farmana are yellowish in colour but they are also found in black colour in small

number, which were used sparingly, most probably for decorative purposes.

The people at Farmana during the Mature Harappan period used typical header and stretcher construction method and the common binding material was yellow silt. This report thoroughly describes different structure complexes excavated at Farmana. A part of STRUCTURE COMPLEX NO. 2 excavated and discussed last year (Shinde *et al.* 2008) is described in this report simply because additional rooms of this complex were excavated this year and it will enable to understand the function of this complex in its entirety.

All the structure complexes excavated in Locality 1 were discovered very close (20-25 cm) to the surviving surface of the site. They all are sealed by Layer (1). There are three sizes of bricks used for construction: 7.5 × 15 × 30 cm, 8.5 × 17 × 34 cm and 10 × 20 × 40 cm.

#### STRUCTURE COMPLEX NO. 2

This large rectangular multi-roomed brick structure complex discovered in the upper levels in Locality 1 has been partially excavated. The structure is located on the eastern edge of the Locality 1 and therefore parts of its eastern sides have been cut and will never be recovered for reconstruction. This structure complex, located to the east of MAIN STREET, is oriented 30° from northwest to southeast. So far, six rooms (ST. NO. 2A, 2B, 2C, 2D, 2E and 2F) and three mud brick platforms associated with this complex have been exposed (Figure 20).

The main structure is divided into two parts (ST. NO. 2A and 2B) by a partition wall. On the northeastern side of the main structure is a broad and large rectangular platform. At a later stage, adding more brick courses on the outer side thickened the original walls. Also in a later stage the western wall was extended further to form another rooms of the complex. Two constructional phases of this structure can be clearly identified.



Figure 19 Farmana Plan of STRUCTURE COMPLEX NOS. 2-4 in Trench 3

*Early constructional phase*

The original structure lies over an area of 6.20 m by 4.20 m. All the four walls of the structure are intact and have been exposed. The structure is divided into two parts by a partition wall, which is located at a distance of 3.07 m from the inner edge of the northern wall and 1.20 m to the north of the southern wall. The room located on the northern side has been named ST. NO. 2A and the one on the southern side of the partition wall as ST. NO. 2B. The partition wall

is 2.65 m in length from east to west and 50 cm in breadth. Two brick courses set in yellow clay mortar of the wall are visible. The wall is intact to a height of 25 cm.

*Structure no. 2A*

The northern part of the structure termed ST. NO. 2A is roughly squarish in plan and measures 3.05 m from north to south by 2.80 m from east to west, on the inner edge of the walls (Figure 21). This relatively



Figure 20 Farmana General view of STRUCTURE COMPLEX NO. 2, from south

large room having a well-made floor may have been used for dwelling.

#### *Structure no. 2B*

To the south of the partition wall is located a small chamber-like room measuring 2.80 m from east to west by 1.20 m from north to south, on the inner edge (Figure 21). This small room appears to be a bathroom of STRUCTURE COMPLEX NO. 2, as its eastern half over an area of 1.10 m from east to west by 1.20 m from north to south is paved with wedge-shaped burnt bricks set in fine silt. In order to prevent the northern partition wall to catch moisture, its base is lined with one vertical course of wedge-shaped burnt bricks arranged alternately. The brick lining, all the walls and floor in this part of the room were all plastered with coating of fine yellow clay of 7 cm thickness. Thus, this part of the room appears to have been made waterproof. In the western part of this room over an area of 1.48 m from east to west by 0.96

m from north to south was prepared a solid floor of mud bricks and plastered. There appears to be a small mud platform by the side of the bathroom, which was also plastered, with a coating of yellow clay. Along the edge of the partition wall at a distance of 45 cm from the inner face of the western wall is made a small bench-like feature of a single vertical course of mud brick. It runs parallel to the wall for a length of 1.05 m. It is 27 cm in breadth (Figure 18).

#### *Later phase of Structure no. 2A*

In the later phase of ST. NO. 2A, the western wall of ST. NO. 2A was externally thickened further by adding three horizontal courses of bricks. The added wall is 55 cm broad. This addition does not end at the southwestern corner of the original structure (early phase), but continues further towards the south in a straight line. It is exposed to a total length of 18.20 m.

There is no uniform pattern followed for the construction of the wall as some bricks are placed



Figure 21 Farmana ST. NOS. 2A and 2B and PLATFORM NO. 2, from southwest

vertically and some horizontally in the same line of course. A similar pattern of extension is noticed in the external side of the northern wall. The additional wall incorporated to the original one in the later phase has survived to its full width of 55 cm. The total width of the wall is now 1.30 m.

It is difficult to surmise the reason for the thickening of the wall. Ethnographic parallels from the village reveal that the walls of a mud or mud brick structure are usually made extra-thick for building a double storey house. We do not know whether the Harappans built double storey houses in the Mature Harappan phase at Farmana. However, it is quite likely, as this was one of the most prosperous Harappan towns and may have been thickly populated, as is evident from the nature of structural remains found there. The evidence from some Harappan metropolitan cities indicates that the technique of the construction of double storey houses was known to the Harappans.

#### *Platform no. 2*

Parallel to the external side of the eastern wall was added on a thick mud platform (Figure 21). It is 5.32 m long and 2.55 m wide. Four courses of bricks of the platform are visible in the eastern section. The edge of the platform is perfectly made by arranging bricks vertically all along the edge. In the inner side, some lines are arranged vertically and some horizontally.

Two large postholes are found on the platform, one located 1.40 m to the north of the southern edge of the platform and 85 cm to the east of the outer edge of the eastern wall of ST. NOS. 2A and 2B and the other 1.80 m further towards north from the first posthole and 67 cm to the east of the eastern wall of the structure. The diameter of the first is 30 cm and 10 cm deep whereas that of second one is 25 cm and a depth of 10 cm. This platform could have been used as front courtyard of ST. NOS. 2A and 2B (Figure 19).



Figure 22 Farmana PLATFORM NOS.1 and 3, from southwest

#### *Structure no. 2C*

A small wall running in the east-west direction emanates from the external edge of the eastern edge of the platform (Figure 21). It has survived to a height of 40 cm. It is situated 1.50 m to the north of the southern end of the platform.

This wall is made of two horizontal brick lines (30 cm broad) which is exposed to a length of 1.06 m and has survived to a thickness of 40 cm. It extends towards east beyond the excavated area. This may represent a wall of the room (ST. NO. 2C) of the STRUCTURE COMPLEX NO. 2 located on the eastern side of PLATFORM NO. 2. This structure contemporary with PLATFORM NO. 2, has a well-rammed and plastered floor, and is located at a depth of 40 cm from the top of the surviving platform.

#### *Platform no. 1*

To the south of ST. NO. 2B was added a roughly squarish platform (Figure 22). This is oriented in the

same direction as that of the entire structure complex.

The brick lining all along the periphery is arranged vertically. The size of the bricks are similar to that used for ST. NOS. 2A and 2B. This platform is separated from ST. NOS. 2A and 2B by a gap of 60 cm. It appears that this platform was built in the first phase simultaneously with ST. NOS. 2A and 2B, as the original western wall continues to form the western edge of the platform.

The dimension of the platform measures 5.55 m from east to west by 4.22 m from north to south. A later pit measuring 1.78 m from north to south by 2.65 m from east to west has damaged the central part of the platform (Figure 19).

#### *Platform no. 3*

To the south of PLATFORM NO.1 at a distance of 43 cm is located yet another platform almost parallel and symmetrical to PLATFORM NO.1 and the structure complex (Figure 22). A very small portion measuring

1.45 m from north to south by 1.50 m from east to west has been excavated in the north western quadrant of Trench 1E. The platform was destroyed partly by a later pit. The pit, oval in shape and oriented roughly from northwest to southeast direction, measures 1.25 m by 90 cm and 35 cm deep. The sides and bottom are irregular and could have been used later as a garbage pit. These two platforms between ST. NOS. 2A, 2B and 2D could have been open spaces and used to carry out domestic activities of STRUCTURE COMPLEX NO. 2.

Excavation conducted in the season of 2007-08 in the trenches located south of the part of STRUCTURE COMPLEX NO. 2 revealed the presence of more rooms of the same complex. At least three more rooms (ST. NOS. 2D, 2E and 2F) have been partially excavated.

#### *Structure no. 2D*

Immediately to the south of PLATFORM NO. 3 is roughly a squarish room that has been excavated almost in its entirety (Figure 20). Only some portion of the southeastern corner has not been excavated due to non-availability of digging space. It measures 4.35 m from north to south by 4.35 m from east to west. A later pit has destroyed the northwest corner.

The eastern wall of the structure is not excavated as it underlies the unexcavated portion.

The southern wall of the structure has been excavated to a length of 3.30 m. Some portion of this wall near the southeastern corner could not be excavated. The average width of this wall is 62 cm and only the basal course with a thickness of 10 cm has survived. The western wall is 4.35 m in length whereas its width is smaller (30 cm) compared to the southern wall. The wall has survived to a maximum height of 20 cm.

The northern wall of the structure that is also 4.35 m in length is merged with the brick flooring of the room and therefore its width is not visible. This part of the structure complex could have been used for dwelling purpose as it has well-made floor of mud

bricks. The entire structure falls in Trench 1D.

#### *Structure no. 2E*

To the south of ST. NO. 2D is located a small rectangular chamber-like feature in the SE quadrant of Trench 1D and NE quadrant of Trench 1E. This is sandwiched between ST. NOS. 2D and 2F. The southern wall of ST. NO. 2D forms the northern wall of this feature and the northern wall of ST. NO. 2F forms the southern wall. The western wall of ST. NO. 2F continues towards the north and forms the western wall of this feature. Part of the eastern portion could not be excavated as it falls in the unexcavated trench. It is 1 m (from inner margin) in width and is excavated to a maximum length of 2.35 m. This small chamber could have been used for storage purpose (Figure 20).

#### *Structure no. 2F*

This is the southernmost room of the complex (Figure 20). The present owner has cut the structure and features to the south of the room in the process of flattening the land for agriculture. Very small portion of this room has been excavated.

The southern wall has survived only near its southwestern corner to a length of 40 cm and the average width of the wall is 50 cm, which has survived to a thickness of 10 cm. This structure also has a well-made floor of brick and brickbats and could be identified as one more dwelling room of the complex. Along the external face of the western wall is a small brick platform, measuring 1.70m from north to south by 1.10m from east to west. Although it encroaches in MAIN STREET, it could have been contemporary to the structure complex and meant for sitting purposes.

The western wall of this complex is common for all the rooms. On the basis of its contents, only storage and dwelling parts of STRUCTURE COMPLEX NO. 2 have been excavated so far. The kitchen of this complex most probably lies somewhere in the southern end or on the eastern side that has not been

excavated.

### *Main Street*

Immediately to the west of the STRUCTURE COMPLEX NO. 2 is an open space running parallel to the length of its western wall, which has been identified as a main street of the town of the Mature Harappan phase at the site. Along the western edge of the street is yet another complex (STRUCTURE COMPLEX no. 3). The street runs 30° from northwest to southeast and has been excavated to a length of 28 m. It continues towards further north. The southern end stops at the northern wall of ST. NO. 4G, at the eastern end of the lane. This is the junction point of the street and the lane. The width of the street varies from 3.60m near the northern end to 4 m in the middle (Figure 23). MAIN STREET is wide enough to be used for plying bullock carts as is evident from the traces of bullock cart-wheel marks on its surface (Figure 24). The width of the bullock cart-

wheel marks varies from 8 cm to 20 cm. It should be mentioned that similar bullock cartwheel marks have been reported from the streets of Harappa.

In the middle of the street at a distance of 8.90 m to the south of the northern end of the street is a small mud brick wall encroaching in the street. This wall, 1 m long from north to south and 55 cm wide from east to west, appears to be a later feature added to the outer surface of the eastern wall of ST. NO. 3I. This may have been done with a view to strengthening or repairing the wall. Also, a small passage between ST. NOS. 3I and 3L measuring 2 m in length from north to south and in alignment with the encroaching wall is a later encroachment in the street.

It is quite likely that the street turns to east at right angle, although it needs to be confirmed. The street deposit consists mainly of pottery and bones that may have been thrown after it was not in use. Due to constant plying of bullock carts in the street, it has developed concave surface and depression-like features



**Figure 23** Farmana MAIN STREET between STRUCTURE COMPLEX NOS. 2 and 3, from southeast



Figure 24 Farmana Bullock-cart wheel marks on the surface of MAIN STREET

at places. Traces of the surface of the streets at places indicate that it was well rammed and hard in nature when it was in use.

The street is running through the following trenches: 1E (NW, SW), 1E1 (NE, NW and SE), 1D1 (NE, NW, SE and SW), 1C2 (NE, SE), 1C1 (NW, SW and SE), 1B1 (NW, SW), 1B2 (NE, NW and SE) and 1A2 (SE, SW).

### STRUCTURE COMPLEX NO. 3

A large complex consisting of numerous rooms of different sizes was excavated on the western side of MAIN STREET (Figures 25 and 26). This is located between MAIN STREET and LANE NO. 1 which is on the southern margin of the complex.

The entire complex is made of mud bricks of the ratio of 1:2:4. It is contemporary with STRUCTURE COMPLEX NO. 2 located on its eastern side across MAIN STREET. The bricks used for construction of this complex are in three sizes, i.e.  $30 \times 15 \times 7.5$  cm,

$40 \times 20 \times 10$  cm and  $34 \times 17 \times 8.5$  cm. The first one is the most commonly used whereas the latter two were used occasionally. So far 22 rooms of the complex have been excavated and it appears that the original size was much bigger as it extends in the northern and western directions, which is yet to be exposed. The entire complex was treated as one unit numbered STRUCTURE COMPLEX NO. 3, whereas each room has been given alphabetical number starting with A. All the rooms of this complex have been oriented  $30^\circ$  in the northeast-southwest direction.

It is noticed that the entire complex was built around a large rectangular central open courtyard, which has been labelled as ST. NO. 3J.

#### *Structure no. 3J*

This large rectangular structure is located to the west of ST. NO. 3G and almost in the centre of STRUCTURE COMPLEX no. 3. It covers an area of 9.60 m from north to south by 7.50 m from east to



Figure 25 Farmana General view of STRUCTURE COMPLEX NOS. 2-4, from southeast



Figure 26 Farmana General view of STRUCTURE COMPLEX NO. 3, from southeast



Figure 27 Farmana Central open courtyard (St. NO. 3J), from northwest



Figure 28 Farmana Later features in the central courtyard (St. NO. 3J), from southeast

west. The entire structure is well preserved and has been fully excavated.

The western wall of ST. NO. 3G forms the eastern wall of the structure, which is 11 m long and 50 cm broad. A part of the southern wall of ST. NO. 3H forms the northern wall of this structure. It is 7.40 m long from east to west and 45 cm broad.

The southern wall of the structure, 9.10 m in length and 50 cm wide, forms the northern wall of ST. NO. 3R and the part of the northern wall of ST. NO. 3T.

The western wall that is 10.80 m long from north to south and 50 cm wide broadens to the width of 95 cm in the middle for length 2.90 m and is located 2.20 m to the northwestern corner (inner surface). This platform-like feature in the wall may have been the entrance to ST. NO. 3K, located on the west (Figure 27).

No contemporary features could be seen inside the enclosed area of the structure. In front of the platform like feature (entrance) in the western wall at a distance

of 30 cm to the east is a circular underground clay bin with a diameter of 55 cm and remains of a storage jar immediately to its east. To the northern edge of the clay bin is attached a single line brick wall survived to a length of 90 cm and a thickness of 15 cm. This wall is 30 cm broad. A clay bin, a storage jar and the small wall running in the north-south direction, all are later than the structure (Figure 28). The structure has a smooth floor. Considering the facts that it is devoid of any features, large in size, having a central location, this structure could be identified as the central open courtyard of the complex. It should be mentioned that the typical Harappan house plan consists of a central open courtyard with rooms around it and this evidence goes with that.

The following are the rooms of the complex located around the central open courtyard.

#### *Structure no. 3A*

This structure is located to the northern side of the



Figure 29 Farmana ST. NOS. 3A and 3C, from nor-theast

exposed complex. It is rectangular on plan and its three walls have been excavated. The southern and western walls are fully exposed, whereas the eastern and northern ones are partially excavated.

The southern wall of the structure measures 10.90 m in length from north to south and its average width is 70 cm. The wall has survived to a maximum height of 12 cm. The western wall is 4.70 m long from north to south and 55 cm wide, being intact to a height of 10 cm. The eastern wall has been excavated near the northeastern corner of the structure only for a length of 16 cm. The northern wall of this structure which is located near its northwestern corner to a length of 2.10 m from east to west has survived to a height of 10 cm.

Inside the structure is a cylindrical pit (silo) located near the northwestern corner of the structure. It is 56 cm to the east of the western wall and 40 cm to the south of the northern wall. This perfectly cylindrical pit having a diameter of 1.05 m may have been a storage pit (silo) of this room (Figure 29). This pit has not been excavated to its base and therefore its total depth is not yet known.

Considering the uneven nature of the floor and the absence of cooking facility, this could be identified as a storage part of the complex.

#### *Structure no. 3B*

In the southern half of Trench 1A5 located to the northwest of ST. NO. 3A is located this structure, which has been partially excavated (Figure 29). Only its southwestern corner has been excavated over an area 3.10 m from east to west by 1.20 m from north to south.

The southern wall of the structure standing over mud brick foundation is exposed to a length of 3.50 m from east to west. The part of the northern wall of ST. NOS. 3A and 3C forms the southern wall of this room. The average width of this wall is 50 cm. Two courses of this wall have survived to a height of 20 cm above the foundation, which is slightly broader (65

cm) than the wall above.

The western wall of the structure is excavated to a length of 1.85 m from north to south. This wall is slightly broader (55 cm) compared to the southern wall. This has also survived to a height of 20 cm. Since very small portion of this structure is excavated, its exact function cannot be understood.

#### *Structure no. 3C*

This structure is located to the south of ST. NO. 3B (Figure 29). Its longer axis lies roughly in the north-south direction. This rectangular structure measures from inner edge 3.30 m long from north to south and 2.17 m wide from east to west.

The southern wall of ST. NO. 3B forms the northern wall, whereas the western wall of ST. NO. 3A forms the eastern wall of this structure. The western wall measures 4.50 m long from north to south and its average width is 65 cm. Only the basal course of this wall is intact to a height of 6 cm. The southern wall is 3.50 m long from east to west and its average width is 55 cm. It has survived to a height of 20 cm.

Inside the structure is a relatively well-made floor of mud brickbats, which is damaged in the middle by a later circular pit, located 30 cm to the east of the western wall and 1.10 m to the south of the northern wall. No other features were encountered on the floor of this structure and therefore it can be identified as one of the living rooms of the complex.

#### *Structure no. 3D*

This is a small rectangular antechamber of ST. NO. 3E oriented more in the northwest-southeast direction and located along the street (Figure 30).

It is separated from ST. NO. 3E by a massive mud brick wall that is 75 cm wide. The inner portion of the antechamber measures 2.55 m from north to south by 1 m from east to west. All the walls are made of bricks arranged vertically in mud mortar.

The southern wall is 80 cm long and 15 cm broad. The western wall is 1.35 m long and 15 cm wide.



Figure 30 Farmana ST. NOS. 3D and 3E, from northwest

Both have survived to a height of 12 cm. Inside the structure is a small rectangular box made of a single brick course arranged vertically. It is 27 cm east of the western wall and 1.05 m north of the southern wall. It is in the northeastern corner of the antechamber and the area enclosed measures 70 cm from east to west by 1.40 m from north to south.

The eastern wall of ST. NO. 3I continues further towards north and forms the eastern wall of this chamber. Its average width is 60 cm.

The western wall of this structure is preserved in a very good state and is 2.50 m long from north to south. It has survived to a height of 12 cm. This antechamber does not have properly made floor and the only function one can suppose for it is the storage of grains or pulses.

#### *Structure no. 3E*

ST. NO. 3E is squarish on plan and located to the west of ST. NO. 3D (Figure 30). The inner dimension of

the structure measures 2.25 m from north to south by 2.80 m from east to west. All the four walls of the structure have been excavated.

The eastern wall is 3.80 m in length and 75 cm in width. It has survived to a height of 13 cm and it appears that only the last course of brick has survived. The southern wall whose average thickness is 70 cm is 4.35 m in length from east to west, being intact to a maximum thickness of 17 cm. The western wall is 3.65 m long from north to south, 70 cm broad and has survived to a height of 15 cm. The northern wall is 4.30 m long from east to west and 65 cm wide, surviving to a maximum height of 12 cm. The floor of the structure is uneven and is devoid of any features.

This structure along with its antechamber (ST. NO. 3D) could be identified as one of the storage facilities of the complex.

#### *Structure no. 3F*

This structure located to the west of ST. NO. 3E is

oriented in the northeast-southwest direction. It measures 3.15 m long from east to west and 1.85 m broad from north to south, on the inner edge. All the four walls of this structure have been excavated.

The southern wall of St. no. 3A forms the northern wall of this structure whereas the western wall of St. NO. 3E forms the eastern wall of this structure. The southern wall is 4.30 m long from north to south and 68 cm wide. All along the length of the inner side of this wall is a rectangular platform, 40 cm wide. The western wall of this structure, 3 m long from north to south, is made of a single brick course arranged vertically. This wall is made of brick of  $40 \times 20 \times 10$  cm.

Inside the structure is a perfectly cylindrical pit belonging to this structure (Figure 31). It is located 1.05 m east of the western wall and 10 cm to the south of the northern wall. The diameter of this pit is 1.70 m. This could be identified as a storage pit, considering the perfectly cylindrical shape of the pit. At a later time after its abandonment, the pit was filled with garbage that consists of large thick potsherds and brickbats.

This could be identified as another storage room of the complex.

### *Structure no. 3G*

This is one of the largest rooms of the complex located immediately to the east of the central open courtyard, which also includes an antechamber in its northwest corner and a number of partition walls inside (Figure 31). The total area occupied by this structure includes 13.60 m from north to south by 7.40 m from east to west. All the four wall of this structure have been excavated.

The antechamber of this structure is rectangular on plan, oriented roughly in the northeast-southwest direction. It is to the west of St. NO. 3F. This chamber measures, on the inner edge, 3.10 m from east to west by 1.95 m from north to south.

The western wall of St. NO. 3F forms the eastern

wall whereas parts of the southern walls of St. NOS. 3A and 3C form the northern wall of this chamber. The western wall of this structure extends towards south to form a part of the western wall of the entire structure (St. NO. 3G). The southern partition wall, located to the west of the antechamber, runs in the east-west direction and is made of a single brick line arranged vertically. The size of bricks measure  $34 \times 17 \times 8.5$  cm. It is 34 cm broad and 1.90 m long from east to west. The wall appears to have been cut by later disturbances towards its eastern end, giving an impression of an opening and forming a small room within the structure.

Inside the main portion of St. NO. 3G is an L-shaped partition wall emanating from the middle of the inner side of the western wall. The vertical part from east to west of the L-shaped wall is located 4.85 m north of the southern wall, and the horizontal shaft from north to south turning towards north is 4.30 m to the west of the eastern wall. The average thickness of this L-shaped partition wall is 50 cm and has survived to a thickness of 8 cm. The length of the vertical portion of the partition wall is 2.10 m, whereas that of the horizontal portion is 2.70 m.

Along the eastern margin of the horizontal partition wall are located two rectangular fireplaces side by side and separated by a single course of bricks arranged in the north-south direction (Figure 32). The fireplace on the southern side is damaged in its southern portion, whereas the northern one is almost intact. The northern fireplace measures 80 cm from north to south by 65 cm from east to west and it is quite likely that the southern one may have had the same dimension before it was damaged. The northern fireplace is protected on its northern end by a small mud brick wall of 30 cm in width.

This fireplace protection wall runs in the east-west direction and is destroyed towards its eastern end. It has survived to a length of 37cm from east to west. It appears that there was a similar wall running from east to west on the southern side of the southern fireplace,



Figure 31 Farmana ST. NO. 3G with antechamber, partition walls and fireplaces, from northwest



Figure 32 Farmana Fireplaces in ST. NO. 3G, from northwest

which has survived at places. It was slightly thicker (40cm) compared to the wall to the north of the northern fireplace, being intact to a length of 1.10m. From the middle of the southern fire protection wall, emanates a small mud brick wall running in the north-south direction towards the north, which is visible to a length of 1.30 m and a width of 35 cm. The exact function of this wall cannot be determined as it is damaged towards its northern end.

The floor of this structure, which is relatively well made, is badly damaged due to later disturbances. There are three later pits and number of depressions that are visible within the structure. Of the three pits, two, one small and one large, are located near the southern wall of the structure. The large pit, which is located 45 cm north of the southern wall and 1.60 m west of the eastern wall, has a diameter of 1.15 m and a depth of 65 cm. It is perfectly circular on plan, yielding Harappan and Early Historic mixed pottery.

To its north at a distance of 15 cm is roughly an oval-shaped pit that measures 95 cm from east to west by 80 cm from north to south.

The third pit is located 45 cm to the west of the eastern wall and 2.60 m to the south of the northern wall. It is also perfectly cylindrical with a diameter of 1.30 m. This pit has not been excavated, but considering its cylindrical nature, it could have been a storage pit of later period.

In the southwestern corner of the structure, 20 cm to the north of the southern wall and 1.17 m to the east of the western wall is a large fragment of a storage jar with narrow but flat base.

All the four walls of this structure are well preserved. The eastern wall is 10 m long from north to south and its average width is 50 cm. It has survived to a height of 10 cm. The western walls of ST. NOS. 3I and 3L form the eastern wall of this structure.

The southern wall is 6.90 m long from east to west, made of single brick course, measuring 30cm broad. This has survived to a height of 20 cm. This also forms a northern wall of ST. NO. 3H.

The western wall of the structure is 11.55 m long from north to south, which excludes the portion of the antechamber. The average width of the wall is 50 cm and is intact to a thickness of 16 cm. This also forms the eastern wall of ST. NO. 3J.

The southern wall of ST. NO. 3F forms the northern wall of this structure. This wall runs straight towards west for a distance of 3.85 m and then turns towards north to form the eastern wall of the antechamber. The average thickness of the wall is 70 cm and has survived to a thickness of 18 cm. Two courses of bricks are visible.

Considering its large size, the well-made floor, antechamber and presence of two fireplaces, this large hall-like structure could have been used for cooking-cum-storage purposes.

#### *Structure no. 3H*

This is a structure located in the northwestern corner of the excavated complex. It is to the west of ST. NOS. 3C, 3B and antechamber of ST. NO. 3G. It is a large hall-like structure that has been only partially excavated so far. The excavated area measures 8.60 m from north to south by 8.50 m from east to west. The structure continues towards the north and west unexcavated sections and therefore its total dimension is not yet known. Only southern and eastern walls have been partially excavated.

The western walls of ST. NOS. 3B, 3C and antechamber of ST. NO. 3G form the eastern wall of this structure. It has been excavated to a length of 8.80 m from north to south. The average width of the wall varies from structure to structure located to the east, which has been described above.

The southern wall has been excavated to a length of 10.30 m from east to west. The average width is 50 cm, but it thickens to 75 cm towards its western end for a length of 3.20 m from the inner side. The wall has survived to a height of 10 cm.

There appears to be a partition wall, which is located 5.05 m to the north of the southern wall near



Figure 33 Farmana ST. NO. 3H showing a small partition wall and a later pit, from northwest

its western end. It is a small and thin wall oriented from southwest to northeast and has been excavated to a length of 1.50 m. This is made of a single course of bricks placed horizontally. The average width is 35 cm and has survived to a height of 10 cm.

There is a huge later square pit located more towards its western side, spreading over an area of 3.90 m by 3.90 m. This has damaged the floor level of the structure (Figure 33).

One of the important finds from this pit is the broken steatite seal engraved with a humped bull and a few Harappan letters. There are more potsherds in this structure bearing possible Harappan letters.

The exact function of the structure cannot be identified, as it is not exposed in its entirety. As it is devoid of any other features and has relatively well-made floors, it may be another dwelling area of the complex.

#### *Structure no. 3I*

This structure located to the south of ST. NOS. 3D and 3E and to the western margin of MAIN STREET, is a very important structure of the complex, because it contains a number of features including a mud brick platform and a floor. The area occupied by the structure measures 4.50 m from east to west by 6 m from north to south on the inner edge. It is roughly rectangular, oriented more towards the northwest-southeast direction.

The southern wall of ST. NOS. 3D and 3E forms the northern wall of this structure that is 5.90 m long from east to west and its average width is 70 cm. It has survived to a height of 10 cm.

The eastern wall is 7.70 m long from north to south having average width of 60 cm, surviving to a maximum height of 20 cm. This is one of the best-preserved walls of the complex, which was strengthened at a later stage with a parallel wall added to its outer surface.



Figure 34 Farmana ST. NO. 3I showing details of features inside and buttresses, from southeast



Figure 35 Farmana Rectangular fireplace and two storage pots in ST. NO. 3I, from southeast

This additional wall of 55 cm broad has survived to a length of 2.10 m from north to south along the southeastern corner of the wall. This may have been added later with a view to strengthening the part of the wall or for repairing it. This wall actually encroaches in the street, which suggests it being later than the structure. This additional wall may have been built when the street was not considered very important.

The southern wall of the structure also has a parallel wall added to its outer surface. The original wall is 5.60 m long from east to west and is 70 cm broad, whereas the later added wall is 6.15 m long from east to west and 35 cm broad. This wall is made of a single brick line placed vertically. This is contemporary with the later wall added to the eastern wall of the structure.

The western wall, which is also the eastern wall of ST. NO. 3G, is 7.70 m long from north to south and its average width is 60 cm. It has survived to a maximum thickness of 14 cm towards its northern side, whereas only the basal course of bricks has survived towards the southern side (Figure 34).

Inside the structure is a platform in the eastern half, which is made of bricks and covers an area of 2 m from east to west by 5.50 m from north to south. On this platform are located two rectangular pits along its southern margin. The one located to the southeastern corner is 85 cm by 85 cm and has survived to a depth of 18 cm. To its west at a distance of 60 cm is yet another squarish pit, which is slightly smaller in size measuring 65 cm by 65 cm. It has survived to a depth of 20 cm. These two pits excavated in the mud brick platform may have been used for storage purpose.

To the west of the platform at a distance of 45 cm from the edge of the mud brick platform and 25 cm to the north of the southern wall is another rectangular pit lined with bricks. Two courses of bricks to a height of 15 cm are visible. The total size of the pit is 80 cm from north to south by 1 m from east to west and the inner dimension is 65 cm from east to west by

50 cm from north to south. The space between the edge of the platform and the pit is also covered with mud brick floor. This pit had clay lining on the inner surface, suggesting that it was used for water storage.

A well-made rectangular fire place is located inside the structure, 2 m to the west of the eastern wall and 1.50 m to the south of the northern wall of the structure. It is squarish, 87 cm by 87 cm with a dimension of the inner space measuring 50 cm from east to west by 60 cm from north to south, being intact to a depth of 15 cm. It is lined with single brick line on three sides and has an opening on the southern side. The inner surface of the fireplace was lined with clay, which is burnt red. It has a slightly staggering base, which is also burnt red (Figure 35). Considering the burnt nature of sides and bottom, it is quite clear that the fireplace was constantly used for a long period. This fireplace, though large, appears to be a domestic hearth as it is open on the southern side. To fit the pots of different sizes on this hearth, the Harappans could have used clay or stone supports.

Two pots are found close to the fire place, one at the mouth of the fire place and the other at distance of 80 cm to its west along the western wall. These, however, belong to two different periods. The one located near its mouth is a globular pot belonging to the later phase, whereas the other on its west, the large storage jar which has tapering end and narrow flat bottom, is earlier than the structure as it is cut by the wall of the structure. Both the pots belong to the Red ware variety.

To the north of the rectangular pit identified as water storage at a distance of 50 cm is a base of a fire place represented by a burnt red patch. It is roughly rectangular, oriented in the north-south direction and measures 60 cm from north to south by 45 cm from east to west. It is a base of a later fireplace.

Considering the features, such as fireplace and three rectangular pits and platform, this structure could be identified as one of the kitchens of the complex.



Figure 36 Farmana ST. NO. 3K showing locations of a fireplace and a small rectangular storage pit, from northeast



Figure 37 Farmana Fireplace in ST. NO. 3K, from southeast

*Structure no. 3K*

This structure whose length is as much as that of ST. NO. 3J (central open courtyard), is located to the western end of the excavated area. It is rectangular on plan, measuring 9.40 m from north to south by 5.20 m from east to west. The western wall and the western part of northern wall have not been excavated. A very small portion of the southwestern corner is clear.

The western wall of ST. NO. 3J forms the eastern wall of this structure. The southern wall surviving to a height of 15 cm has a length 5.85 m from north to south and its width varies from 80 cm towards east to 1.15 m towards west. The portion of the wall that forms the northern wall of the ST. NO. 3R is 80 cm in width and the portion, which forms the northern wall of ST. NO. 3T, is 1.15 m. Both these structures are located to the south of this structure. The western wall has been excavated to a length of 65 cm near the southwestern corner of the structure (Figure 36).

In the southeastern corner of the structure is a mud brick platform in the north-south direction. It is 2.25 m in length and 1.40m in width and has survived to a height of 15 cm. This could be sitting platform inside the structure.

In the northeastern corner of the structure is located an oval fireplace oriented roughly in the north-south direction. It is located 20 cm to the west of the eastern wall and is 65 cm to the south of the northern wall. The oval fireplace is 90 cm long from north to south and 50 cm broad and has survived to a depth of 10 cm.

The area between the fireplace and the wall is paved with bricks and therefore they both appear to be contemporary. The sides and the bottom of the pit are burnt red, suggesting its constant and long use (Figure 37).

In the middle of the structure appears to be a partition wall made of a single brick line. It is located 4 m to the south of the northern wall. The wall runs roughly in the east-west direction and divides the structure into two parts, the northern being 4 m and

southern 5.15m on the inner edge. The wall visible to a length of 2.75 m is 30 cm broad and has survived in the form of traces only. It is cut by a later disturbance towards its eastern end. Immediately to its south at a distance of 10 cm and 1.70 m to the west of the eastern wall is a small circular pit, 80 cm in diameter. It appears to be a later pit that has yet not been excavated.

In the eastern wall at a distance of 3.10 m to the south of the northeastern corner is a small opening of 1.15 m in width. The eastern wall is common between the central courtyard (ST. NO. 3J) and this structures and the opening in the wall marks entrance between them. This has a step-like feature, which is 10 cm from the base of the opening. This feature further strengthens the view that ST. NO. 3J was a central courtyard and there may have been entry to this courtyard from all four directions.

*Structure no. 3L*

Between ST. NOS. 3I and 3M is located a rectangular passage which is open towards its eastern end and closed towards its western end. The area enclosed measures 5.65 m from east to west by 2.10 m from north to south.

The southern wall of ST. NO. 3I forms the northern border and the northern wall of ST. NO. 3M forms the southern border of this structure. It is devoid of any feature but has a very well-made rammed hard floor made of mud, brickbats and mud bricks.

This passage could be a common space used by the occupants of ST. NOS. 3I and 3M and also possibly marks the entrance to STRUCTURE COMPLEX NO. 3 (Figure 38).

*Structure no. 3M*

This is a large rectangular structure roughly oriented in the east-west direction. It is to the south of ST. NOS. 3L and 3G. It measures 8.35 m from east to west and 3.05 m from north to south.

The eastern wall of structure running parallel to



Figure 38 Farmana St. NOS. 3L and 3I, from southeast



Figure 39 Farmana St. NOS. 3M, 3N and 3Q, from northeast



Figure 40 Farmana Astragali (tarsal bones) of cattle in ST. NO. 3M

the western margin of MAIN STREET is 4.10 m from north to south long and 60 cm broad. It has survived to a height of 15 cm.

The northern wall is 9.25 m from east to west long. The southern margin of ST. NO. 3L which forms part of the northern wall for a length of 5.30 m is 50 cm broad, whereas the part of the southern wall of ST. NO. 3G which forms remaining part of this wall for a length of 3.95 m from east to west is 30 cm broad, which is made of a single line of mud bricks placed vertically. The northern wall has survived to a thickness of 15 cm.

The southern wall of the structure, a major portion towards the western end of which is cut, runs to a length of 9.25 m from east to west. The northern wall of ST. NO. 3N, which forms eastern part of the southern wall of this structure for a length of 4.20 m, is 60 cm broad. The remaining portion of the wall towards its western end has been destroyed completely, except for a small portion to a length of 52

cm at the junction with the southwestern corner. The wall towards the western end has survived to a height of 25 cm, whereas it is 15 cm towards its eastern end.

The western wall of the structure that also forms the eastern wall of ST. NO. 3P runs to a length of 4.40 m from north to south. It is made of a single brick line arranged vertically. It is 30 cm in width and survived to a thickness of 20 cm (Figure 39).

To the north of the southern wall at a distance of 1.20 m is located a feature made of mud brick which runs in the east-west direction. It looks like a wall tapering towards the west. It has survived to a total length of 1.60 m from east to west and is 55 cm broad towards its eastern end and 40 cm towards its western end. It is quite likely that there was a mud platform in this part of the structure, some portion of which towards its southern side may have been cut by a later pit.

Along the inner margin of the northern wall at a distance of 1.80 m to the west of the northeastern



Figure 41 Farmana St. NO. 3N, from northeast

corner is located a rectangular fireplace. To its west is another fireplace in the same alignment separated by a small rectangular platform measuring 70 cm from east to west by 45 cm from north to south.

The eastern fireplace, rectangular in shape and running from east to west along the margin of the wall, is 1 m in length from east to west by 55 cm in breadth from north to south. It has a clay wall about a thickness of 20 cm along its eastern margin, which has survived to a height of 7 cm. The fireplace is open towards its southern side and is 20 cm deep. The sides and the bottom of the pits are burnt red. Along its southern margin, the fireplace is destroyed partially by a later circular pit of 50 cm in diameter. The fireplace on the western side is small and irregular in shape due to disturbances.

The structure has a well-made floor of brick and brickbats, which has been destroyed at places by later pits. On the surface of the floor near its north-eastern corner, 1 m to the west of the eastern wall and

50 cm to the south of the northern wall are found well-preserved nine pieces of astragali (tarsal bones) of cattle (Figure 40). These are the bones that are non-meat bearing part of the body, which may have been deposited in the pit. They represent six animals (confirmed by archaeozoologist Dr. P.P. Joglekar).

At the western end of the platform along its southern margin is a long narrow stand of dish-on-stand which could be associated with the structure. There is one later pot in the northwest corner of the structure. It is a storage jar of medium size of coarse Red ware with a circumference of 50 cm, the upper part of which is missing. This structure could be one of the cooking places of the structure complex.

#### *Structure no. 3N*

This small squarish structure, located at the junction of MAIN STREET and LANE NO. 1 and to the southern side of ST. NO. 3M, is a small room having well-made walls and floor (Figure 41). The dimension

of the structure on the inner edge measures 3 m from east to west by 2.45 m from north to south.

The southern wall of ST. NO. 3M forms the northern wall of the structure. It is 4.15 m from east to west in length, 55 cm broad and has survived to a height of 25 cm.

The western wall is 3.70 m long from north to south and 60 cm broad, also forming the eastern wall of ST. NO. 3Q. The wall has survived to a height of 30 cm and three courses of bricks are visible.

The eastern wall running parallel to MAIN STREET is 3.60 m long from north to south and 55 cm broad, which has been partially destroyed in the middle by a later pit. The pit is located 65 cm to the north of the southern wall (from the inner edge). It is a large circular pit with a diameter of 1.40 m and a depth of 50 cm.

In the northwestern corner is a small rectangular fireplace. It is located along the inner face of northern wall, 30 cm to the east of the western wall. The fireplace measures 45 cm from east to west by 30 cm from north to south and is 20 cm deep. The corners of the pit are rounded. The sides and the bottom of the pit are burnt red.

This structure has a well-made floor that is smooth because of plastering. It has developed a concavity in the middle and was repaired periodically, traces of which are present at places.

At the junction of MAIN STREET and LANE NO. 1 at its southeastern corner is a rectangular platform attached to the external surface near the eastern end of the southern wall. This platform measuring 1.90 m from east to west by 75 cm from north to south may have been built in the square of the street for sitting purposes. It should be noted that a similar kind of arrangement is usually made in the present villages and towns.

#### *Structure no. 3O*

Located to the west of ST. NO. 3Q and south of ST. NO. 3P, is one of the best-preserved structures of

the complex (Figure 42). All the four walls of the structure are well preserved along with its very well-made floor level. It is oriented roughly in the north-south direction and occupies an area of 2.70 m from north to south by 1.75 m from east to west.

The eastern wall of the structure, consisting of three brick courses which have survived to a height of 25 cm, is also the western wall of ST. NO. 3Q. It is 3.73 m long and its average width is 60 cm. The northern wall, which is also the southern wall of ST. NO. 3P, is 3 m long from east to west and 65 cm wide. It has survived to a thickness of 30 cm. The western wall, which is 4 m in length and 60 cm in width, has survived to a height of 30 cm, four brick courses being visible.

No feature is found inside, but there is a flimsy yet smooth floor. Considering the size, this could be identified as a storage room of the complex.

#### *Structure no. 3P*

This is one of the smaller rooms of this complex located to the north of ST. NO. 3O. It covers an area of 2.65 m from north to south by 2.15 m from east to west (Figure 42).

The northern wall of ST. NO. 3O forms the southern wall of this structure.

The eastern wall, 3.80 m long from north to south and 30 cm wide, is made of single brick line placed vertically. In the middle of this wall at a distance of 1.80 m from the northeastern corner is a circular post-hole with a diameter of 7 cm. This wall being very thin, additional support in the form of posts or pillars could have been provided to the roof. This wall has survived to a height of 20 cm and is shared between this structure and ST. NO. 3M.

The northern wall, 2.95 m long and 45 cm broad, has survived to a height of 7 cm. It is separated by 37 cm from the part of the southern wall of ST. NO. 3G, indicating it was not a common wall between them but built separately only for this structure. The western wall of the structure though lies between this



Figure 42 Farmana ST. NOS. 3O, 3S, 3P and 3R, from northwest

and ST. NO. 3R was not a common wall either, but built separately by this structure. It is 3.80m long and 50 cm wide. It has survived to a maximum height of 10 cm. In the southwestern corner, in the middle of the junction of south and western walls is a circular post-hole with a diameter of 15 cm.

This structure has a very well-made floor of mud bricks, which has survived at places. The remaining portion of the floor was cut by later disturbances. In the middle of the floor, 75 cm to the west of the eastern wall and 85 cm to the north of the southern wall, is a perfectly circular but shallow pit with its sides and bottom smooth. It has a diameter of 80 cm and a depth of 15 cm and is contemporary to this structure.

Besides there was possibly a small storage chamber located along the northern wall. It measures 2 m from east to west by 65 cm from north to south from the inner edge. This could be another storage structure of the complex survived to a thickness of 10 cm.

#### *Structure no. 3Q*

To the west of ST. NO. 3N and north of LANE NO. 1 is located a rectangular structure oriented in the north-south direction. All the four walls are clear of which the northern wall is destroyed by later pits (Figure 39).

The western wall of ST. NO. 3N is the eastern wall of this structure. The eastern wall of ST. NO. 3O is the western wall of this structure and the southern wall of ST. NO. 3M is the northern wall of the structure. The southern wall running parallel to the lane is 5.70 m long and 60 cm wide and has survived to a height of 20 cm, three brick courses being visible from the inner side. The area enclosed by this structure is 4.55 m from east to west by 2.55 m from north to south.

In the southeastern corner is located squarish mud brick platform measuring 1.40 m from north to south by 1.20 m from east to west. The nature of the floor is not visible as it is badly damaged.

The exact function of this structure cannot be

identified, but most probably was used for a dwelling purpose.

#### *Structure no. 3R*

To the west of ST. NO. 3P and north of ST. NO. 3S is a small squarish structure enclosing an area of 2.25 m from east to west by 2.50 m from north to south (see Figure 39).

The eastern wall of this structure is an independent wall built along the length of the western wall of ST. NO. 3P. It is 3.70 m from north to south long, 80 cm broad and has survived to a height of 15 cm.

The southern wall, which is made of a single line of bricks, is 3.75 m from east to west in length and 35 cm in width and has survived to a height of 10 cm.

The western wall, 3.90 m long from north to south and 65 cm wide, lies between this structure and ST. NO. 3T. It has survived to a height of 15 cm.

There is a rectangular chamber made of a vertically-placed single mud brick line. It is located along the length of the southern wall, 10 cm to the east of the western wall. The eastern part is displaced due to some later disturbances. The area enclosed by this chamber is 53 cm from north to south by 1.10 m from east to west. This chamber of 12 cm in depth is plastered on the inner side and could have been made for water storage.

The floor of this structure is well made of brickbats and clay, rammed hard. This could be an additional room to ST. NO. 3T, which could be one of the kitchens of the complex.

#### *Structure no. 3S*

This squarish structure is located to the west of ST. NO. 3O and north of LANE NO. 1 (Figure 42).

The eastern wall of the structure is built parallel to the western wall of ST. NO. 3O. It is 3.80 m long from north to south and 50 cm broad and has survived to a height of 18 cm. The southern wall running parallel to the lane is 4 m long from east to west and 50 cm wide and has survived to a height of 10 cm. The western

wall, built parallel to the eastern wall of ST. NO. 3T, is 3.80 m long and 35 cm broad. It has survived to a thickness of 20 cm. The area enclosed is 3 m from north to south by 2.65 m from east to west.

This structure has also a hard well-made floor and could have been used as another storage room, as it is devoid of any other features and too small to be used for a dwelling purpose.

#### *Structure no. 3T*

To the west of ST. NOS. 3R, 3S and north of LANE NO. 1 is located ST. NO. 3T, which is roughly squarish on plan.

The western walls of ST. NOS. 3R and 3S form the eastern wall of these structures, which is 7.70 m long from north to south, 70 cm wide, being intact to a height of 15 cm. The inner face of this wall towards the northern side was broadened to 80 cm for a length of 2.60 m, which has survived to a height of 20 cm. This could be identified as a sitting bench inside the structure.

The northern wall is 8.90 m long, 60 cm wide and has survived to a height of 20 cm. This wall is common between ST. NOS. 3J and 3K. The western wall which forms the eastern walls of ST. NOS. 3U and 3V, is 8.20 m long from north to south and the width varies from 80 cm towards the southern end to 1 m towards the northern end. The wall has survived to a height of 20 cm.

The southern wall is 8.40 m long, 80 cm broad and has survived to a thickness of 20 cm (Figure 43). The wall is damaged by a later pit along its outer edge towards the western end, which contains large and small potsherds, and numerous animal bones including an almost complete bovine skull (Figure 44).

Inside the structure, 2.30 m to the north of the southern wall is a partition wall running straight on the inner edge of the western wall towards the east for a distance of 3.80 m, and then forming a right angle turning towards the north for a distance of 1.50



Figure 43 Farmana St. NOS. 3T, 3U and 3V, from northwest



Figure 44 Farmana Garbage dump in LANE NO. 1, from southwest



Figure 45 Farmana Double fire-pit with a pot in ST. NO. 3T, from northwest

m. This L-shaped partition wall has survived to an average height of 45 cm. This divides the structure into three parts and each part being used for different activities.

The enclosed space on the northern side of the partition may have been used for storage as it contains a cylindrical storage silo. This silo is 1.75 m to the north of the partition wall and 1.25 m to the east of the western wall. The perfectly cylindrical silo has a diameter of 1.30 m and a depth of 75 cm (see Figure 43).

The evidence of two fireplaces, one each located in these parts of the structure, indicate that the eastern and southern parts of the structure may have served as a kitchen. In the northeastern corner of the structure is located a rectangular fireplace which is 70 cm to the south of the northern wall along the inner margin of the eastern wall. It is 70 cm in length from north to south, 40 cm in width from east to west and has survived to a depth of 15 cm. The clay plastered on

the sides and bottom are burnt red due to constant use. The fireplace is lined with bricks on the northern and the western sides. The total dimension of the fireplace inclusive of its brick lining is 1 m by 60 cm. The fireplace has an opening towards the southern side.

There are two globular pots of Red ware in medium size located in the vicinity of this fireplace. One of them is located 5 cm to the west of the outer margin of the fireplace and two pots were placed on a rectangular platform, measuring 1.60 m from north to south by 1.20 m from east to west, being intact to a height of 12 cm.

A double rectangular fireplace separated by vertically-placed single brick line is noticed along the inner margin of the southern wall. The eastern margin of this fireplace is 2.30 m to the west of the eastern wall. The total area of this double fireplace on the inner edge measures 1.30 m from east to west by 80 cm from north to south. It is lined with bricks

along its eastern and western margins, whereas it is open towards its northern end. The middle partition brick wall of this double fireplace is 80 cm long from north to south and 15 cm broad. Both the faces of the partition wall and the inner faces of the margin walls are plastered and burnt red (Figure 45).

To the west of the western margin of the fireplace at a distance of 20 cm is a small cylindrical pit (65cm in diameter) that could be contemporary to the fireplace. This has not been excavated down to its bottom. To its west at a distance of 20 cm is yet another cylindrical pit with a diameter of 1.20 m. Both these pits are perfectly cylindrical in shape and could be identified as storage pits.

It has a well-made, smooth but slightly flimsy floor. One family could have occupied this structure, which has storage as well as cooking facilities.

#### *Structure no. 3U*

To the west of ST. NO. 3T are located two structures ST. NOS. 3U and 3V, the former one towards the northern side. It is a rectangular structure oriented roughly in the north-south direction, enclosing an area of 3.15 m from north to south by 2.40 m from east to west.

The eastern wall of the structure is 5.25 m long from north to south and 90 cm wide, being intact to a height of 12 cm. This is the part of western wall of ST. NO. 3T. The northern wall which has survived to a height of 12 cm is exposed to a length of 3.40 m, a very small portion which continues further towards west in an unexcavated section. This forms the western portion of the southern wall of ST. NO. 3K. The western wall exposed to a length of 4.10 m has an average width of 95 cm. It has survived to a thickness of 10 cm. The southern wall which is shared between this structure and ST. NO. 3V is 4.30 m long and 1.10 m broad. This wall has survived to a height of 10 cm (see Figure 43).

This structure devoid of any features could be another storage place of the complex.

#### *Structure no. 3V*

To the south of ST. NO. 3U and north of LANE NO. 1 is a small squarish structure. The southern wall of ST. NO. 3U forms the northern wall of this structure.

The eastern wall is 4.20 m long and 70 cm in width and forms the southern portion of the western wall of ST. NO. 3T. It has survived to a height of 15 cm. The southern wall running parallel to the lane is 5.50 m long from east to west and 65 cm broad. It has survived to a height of 20 cm. The western wall of the structure is 4.30 m in length and 60 cm wide has survived to a height of 15 cm.

The area enclosed by the structure is 2.50 m from north to south and 2.50 m from east to west, which has a well-made hard floor (see Figure 43).

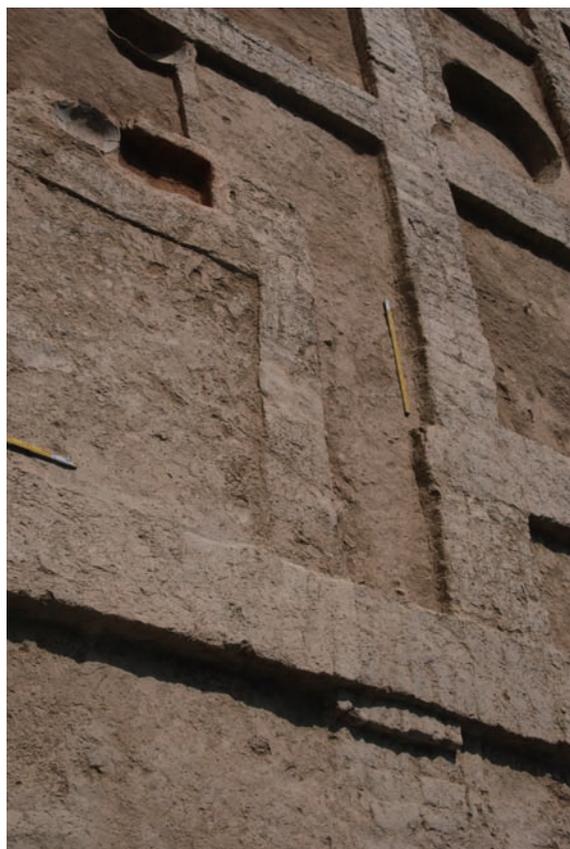
Considering its size and the absence of any other features, this could also be one more storage area of the complex.

#### *Functional Analysis of the STRUCTURE COMPLEX 3*

The remaining part of the STRUCTURE COMPLEX NO. 3 continues further towards the west of ST. NOS. 3U, 3K, 3H and the north of ST. NOS. 3A, 3B and 3H. So far, this is the largest complex excavated at Farmana, which does not appear to belong to one family. The excavated portion of the complex seems to have been possibly occupied by seven households belonging to a big joint family. This identification is based on the location of different rooms within the complex, their size and shapes, nature of floors and features, pottery and other artefacts inside and outside these rooms.

The living structures identified within this complex usually have a large rectangular plan and well-made floors of alternate layers of alluvium soil and silt, rammed hard and plastered with clay and cow dung. Usually they are open rooms devoid of any other features in them.

Those rooms of the complex, which are usually small in size or antechambers of big rooms, may or may not contain cylindrical pits (silo) in them and may or may



**Figure 46** Farmana Passage to HOUSEHOLD NO. 1 with two flights of steps from MAIN STREET, from northeast

not have well-made floors in them, have been usually identified as storage places of the complex. Those structures that contained fireplaces, storage, cooking, storage and fine pottery, lots of animal, fish and bird bones, etc., seems to be usually associated with the cooking activities (kitchens) of the complex.

STRUCTURE COMPLEX NO. 3 is too big a complex to be occupied by a single family. It is located in the centre of the settlement and well planned and perfectly built. This may have belonged to a socially and economically highly influential joint family.

Considering the criterion mentioned above for the classification of structures, seven households could be identified within the excavated area of this complex. HOUSEHOLD NO. 1 includes three ST. NOS. 3D, 3E and 3I located near the northeast part of the complex along MAIN STREET. ST. NO. 3D is a rectangular chamber and ST. NO. 3E, a small squarish room with flimsy floor, are too small to be used for dwelling and therefore they are identified as storage rooms.

Considering that ST. NO. 3I is large in size, having a fireplace inside, three small rectangular pits, one possibly for water storage, a mud brick platform and mud brick floor, it could certainly be a kitchen-cum-living room of the household.

ST. NOS. 3F and 3G located to the west of HOUSEHOLD NO. 1 may form second household (HOUSEHOLD NO. 2). ST. NO. 3G, a small room containing a silo, could be a storage room and ST. NO. 3G, a large rectangular structure containing an antechamber towards its northern end, L-shaped partition wall and two fireplaces, could be the living room-cum-kitchen of this household. ST. NOS. 3A, 3B and 3C located towards the northeastern edge of the excavated area of this complex may form another independent household (HOUSEHOLD NO. 3). The kitchen of this household is not yet found as it most probably lies towards the northern unexcavated portion. ST. NOS. 3A and 3C, small in size and containing silos in them could be storage

places, whereas ST. NO. 3B, which has been partially excavated, could have been the living part as it has a well-made floor.

ST. NO. 3H, located towards the northwest part of the excavated area of the complex, may also represent a separate household (HOUSEHOLD NO. 4) as this large hall-like structure appears to have divided into different parts for carrying out different activities. Some portion of this structure towards its north is yet to be excavated.

Similarly, ST. NO. 3K located to the west of the central courtyard (ST. NO. 3J) may also represent a separate household (HOUSEHOLD NO. 5) within the complex. This may also have been divided into a number of parts by partition walls and has a relatively well-made floor, which is badly damaged at places by later disturbances, a fireplace, mud brick platform and a small rectangular storage pit. Since it contains cooking and storage facilities and has a large area with a well-made floor, it qualifies to be an independent dwelling unit within the complex.

ST. NOS. 3M, 3N, 3O, 3P and 3Q may form another household (HOUSEHOLD NO. 6) as ST. NOS. 3M and 3N have cooking facilities and ST. NOS. 3O and 3P have storage facilities. ST. NO. 3Q and part of ST. NO. 3M, having a relatively large area and a slightly better floor, may have been used for dwelling. This household (HOUSEHOLD NO. 6) is located in the southeast part of the complex.

To the west of HOUSEHOLD NO. 6 is located one more household (HOUSEHOLD NO. 7), which includes ST. NOS. 3R, 3S, 3T, 3U and 3V. ST. NOS. 3R, 3S, 3U and 3V all very small in size, and could be identified as storage rooms of this household. ST. NO. 3T, divided by a partition wall and equipped with a fireplace, storage pits and a mud brick platform with a relatively better floor could be identified as the kitchen-cum-dwelling of the household. It is observed that the structures located on the periphery of this complex are parallel and symmetrical either to MAIN STREET or LANE NO. 1. The owner of this

STRUCTURE COMPLEX NO. 3, however, did not maintain such symmetry, in the inner side.

HOUSEHOLD nos. 2, 4, 5 and 7 were located on the margin of the central courtyard (ST. NO. 3J). There may have been an entry to the courtyard from all these households. HOUSEHOLDS NOS. 1 and 6 have a common space between them (ST. NO. 3L), which probably mark the entry point and is open towards MAIN STREET. The entry to these households may have been from MAIN STREET side through this small passage (ST. NO. 3L) between these two households.

Of all the households identified in STRUCTURE COMPLEX NO. 3, HOUSEHOLD NO. 1 appears to be special as, apart from the common entry on the southern side, it had also a separate entry from the side of MAIN STREET through a small passage along the northern wall of ST. NO. 3L.

At the eastern end of this passage in MAIN STREET are two flights of steps of mud bricks. The lowest step measures 1.15 m in length from north to south and 60 cm in width from east to west, whereas the step above it is 85 cm from north to south by 20 cm from east to west. The passage inside is as wide as the upper step (85 cm), which goes straight to a distance of 3.90 m and then turns in right angle along the western wall towards south (Figure 46).

As is evident at Harappa and Mohenjo daro, building of passages and platforms in MAIN STREET was not a common practice in the Harappan cities and towns. It is observed at these two very important Harappan cities, now located in Pakistan, that none of the house opened into the street but in the opposite direction in lanes or gullies.

There is a possibility of an entry into HOUSEHOLD NO. 7 through the southern wall of ST. NO. 3S as the wall is considerably thin here compared to the walls of the remaining structures located along LANE NO. 1. Whether there are entries to other households or not, it is not yet clear at this stage, as it has not been completely excavated.

*LANE NO. 1*

To the south of STRUCTURE COMPLEX NO. 3 and north of STRUCTURE COMPLEX NO. 4 is a narrow rectangular strip devoid of any encroachment. This could be treated as a lane between these two structural complexes.

The lane runs in the southeast-northwest direction and its average width is 1.20 m, being one-thirds of the width of MAIN STREET. This runs from the outer side of the northeastern corner of ST. NO. 4B, straight towards west for a length of 18.80 m and then turns in right angle towards the south at the northwestern corner of ST. NO. 4F for a length of 5 m where it is slightly broader (1.45m). The same lane again turns in right angle straight towards west, which is exposed to a length of 4 m. It continues further in the unexcavated portion (Figure 47).

Towards the east, this LANE NO. 1 ends into an open space at the junction with MAIN STREET. It runs along the southern walls of ST. NO. 3N and ST.

NO. 3Q until the southeastern corner of ST. NO. 3N.

**STRUCTURE COMPLEX NO. 4**

To the south of LANE NO. 1 is exposed partially yet another structural complex made of mud bricks, which is contemporary to LANE NO. 1, MAIN STREET and STRUCTURE COMPLEX NOS. 2 and 3.

LANE NO. 1 borders the northern and western sides of the complex. So far, nine rooms of this complex numbered from ST. NO. 4A to ST. NO. 4I have been excavated and it is clear that the complex expands further towards the east and the south in an unexcavated portions. The orientation of the structural complex in the northwest-southeast direction is common to LANE NO. 1, MAIN STREET and STRUCTURE COMPLEX NOS. 2 and 3 (Figure 48).

The following are the details of the excavated rooms of this complex.



Figure 47 Farmana LANE NO. 1 between STRUCTURE COMPLEX NOS. 3 and 4, from southwest



Figure 48 Farmana General view of STRUCTURE COMPLEX NO. 4, from northeast

**Structure no. 4A**

It is a small rectangular structure attached to the outer edge of the eastern wall of ST. NO. 4B near its southeastern corner. This small structure is located in the open space or square at the junction of street and lane. The area enclosed by this structure measures 1.70 m from north to south by 1.35 m from east to west.

The southern portion of the eastern wall of ST. NO. 4B forms the western wall of this structure, which is 2.60 m long from north to south and 55 cm wide. The northern wall made of a single brick line placed vertically is 2.20 m long and 30 cm broad. The eastern wall is 2.60m long and is also made of single brick line placed vertically. It is 30 cm wide. The southern wall is 2.10 m long and 40 cm wide. All the walls have survived to a maximum height of 35 cm.

Inside the structure, there is a flimsy floor over which is fallen debris of walls. This structure that is outside the complex may not form its part, as it is solitarily located in the junction of MAIN STREET

and LANE NO. 1, very small in size and devoid of any features in it. It could be identified as a shelter for security guard (Figure 49).

**Structure no. 4B**

This structure is located at the eastern end (entrance) of LANE NO. 1 and to the west of ST. NO. 4A. It is rectangular in shape, enclosing an area of 4 m from north to south by 2.55 m from east to west. All the four walls have survived.

The eastern wall, which is 4.45 m long and 50 cm wide, has survived to a height of 20 cm, three brick courses being visible. Towards its northern side, 1.10 m to the south of the northern end, the wall is partly damaged by a later circular pit, which has a diameter of 1.10m.

The northern wall running parallel to LANE NO. 1 is 3.60 m long and 60 cm wide and has survived to a height of 20 cm. This wall is also partly damaged by a circular pit, 90 cm in diameter, towards its eastern



Figure 49 Farmana ST. NOS. 4A, 4B, 4C (Lane 2), 4D and 4I, from southeast

side, 1 m from the eastern end of the wall.

The southern wall of the structure, 3.60m long and 80 cm broad, has survived to a height of 25 cm. The western wall of the structure, 5.30 m in length and 55 cm in width, is damaged by a later circular pit having a diameter of 1.10 m located 1.50 m to the north of the southern end of the wall (see Figure 49).

This structure is also devoid of any other features and has flimsy floor, neither well-made nor plastered. This may therefore be identified as a storage room of the complex.

#### *Structure no. 4C (LANE NO. 2)*

This is actually not a structure but a passage or lane to STRUCTURE COMPLEX NO. 4. Part of this passage is between the western wall of ST. NO. 4B and the eastern wall of ST. NO. 4D. This narrow passage between these two walls runs roughly in the north-south direction for a length of 5.20 m and then takes a 90° angle, turning towards the west.

The same wall at a distance of 3 m from the edge of the western wall of ST. NO. 4B turns again towards the south and runs straight, a length of 70 cm having been exposed. This passage continues further south in an unexcavated portion.

The average width of this passage between the western wall of ST. NO. 4B and the eastern wall of ST. NO. 4D is 1.65 m, whereas between southern wall of ST. NO. 4D and northern wall of ST. NO. 4I is 1.35 m. When it turns towards the southern side, it again becomes 1.65 m in width.

This passage is found to be hard, because of its constant use (see Figure 49).

#### *Structure no. 4D*

To the west of LANE NO. 2 (ST. NO. 4C) is located a small rectangular room, which encloses an area of 3.30 m from north to south by 2.30 m from east to west. All the four walls are well preserved.

The eastern wall that forms the western margin of

LANE NO. 2 (ST. NO. 4C) is 4.65 m long and 55 cm wide. At a later stage a single mud brick line was added to the inner edge of this wall. It is 15 cm in width. The total width including the later addition thus becomes 70 cm. The northern wall of the structure located on the southern margin of LANE NO. 1 is 3.50 m long, and 65 cm wide, and has survived to a height of 18 cm. The western wall, which is also the eastern wall of ST. NO. 4E, is 4.70 m long and 70 cm wide. It has survived to a height of 17 cm. The southern wall of the structure, 3.45 m long and 65 cm wide, is located on the margin of LANE NO. 2 (ST. NO. 4C) and has survived to a height of 15 cm.

Inside the structure is a base of a later circular pit that is 65 cm to the south of the northern wall and 60 cm to the west of the eastern wall. It has a diameter of 75 cm and has survived to a depth of 5 cm (see Figure 46).

The structure has a very well-made floor, rammed hard and plastered, and could be identified as one of

the dwelling space of the complex.

#### *Structure no. 4E*

To the west of ST. NO. 4D is located a large hall-like structure, the southern part of which is still unexposed. Three walls have been excavated except the southern wall. This structure is 5.35 m long from east to west, and its width from north to south is exposed to a length of 4.30 m.

The western wall of ST. NO. 4D forms a part of the eastern wall of this structure. It has been excavated to a length of 6 m and is made of a single mud brick placed vertically. The average width of the wall is 30 cm and has survived to a height of 15 cm. The northern wall, 6.60 m long and 55 cm wide, runs parallel to LANE NO. 1 and has survived to the height of 16 cm. The western wall that also forms the eastern wall of ST. NO. 4F has been exposed to a length of 6 m. Its average width is 65 cm and has survived to a height of 15 cm.



Figure 50 Farmana ST. NOS. 4E and 4F, from southwest

A very small portion of probably a squarish mud brick platform, surviving to a height of 15 cm, has been excavated in the northeastern corner, which could be identified as a sitting platform.

Inside the structure, two thin walls parallel to each other and made of a single mud brick line placed one above the other run in the east-west direction, both emanating from the inner face of the eastern wall. Both of them are 30 cm wide. One of them is 3 m to the south of the northeastern corner of the structure. It is 2.90 m long and 15 cm wide and has survived to a height of 15 cm.

At the western end of this wall was added a wall, running from north to south, having the same thickness towards its southern side, which has now survived to a length of only 30 cm.

To the south at a distance of 90 cm of the wall running from east to west is another small partition wall, which has survived to a length of 1.45 m. These walls forming a small rectangular chamber could have provided protection to a fireplace, which may have been located between them, as the traces are seen in the form of burnt patches. Inside this structure was a well-made floor, which has survived near the northeast and southwest corners of the structure.

The remaining major portion of the floor has been disturbed due to later pits (Figure 50). This could be identified as kitchen-cum-dwelling structure of the complex.

#### *Structure no. 4F*

This is a structure located to the northwestern corner of the complex. It is encircled on its northern and western sides by LANE NO. 1 and by ST. NO. 4E on its eastern side. All the four walls have been well preserved.

The part of the western wall of ST. NO. 4E for a length of 3.65 m forms the eastern wall of this structure.

The northern wall running parallel to LANE NO. 1 on the northern side is 4.65 m long and 65 cm wide

and has survived to height of 20 cm. Near its western end for a length of 1.55 m wall has survived to a thickness of 10 cm.

The western wall 3.50 m long and 70 cm wide, parallel to LANE NO. 1 running in the north-south direction, has survived to a height of 10 cm. Towards its southern end, it has survived to a height of 15 cm. The southern wall of this structure is 4.70 m long and 65 cm wide has survived to a thickness of 20 cm. The area enclosed by this structure measures 3.35 m from east to west by 2.25 m from north to south. It has a well-made floor, rammed hard and plastered, and could be identified as another dwelling structure of the complex.

To the south of the structure outside the southern wall is a platform attached to this structure made of brick pavements. It is exposed to an area of 2.60 m from north to south by 4.70 m from east to west. It continues further towards the south in the unexcavated portion.

Two large pits located along its western edge and in the centre have damaged the platform considerably. This could be identified as a southern courtyard of STRUCTURE COMPLEX NO. 4.

A rectangular fireplace surviving by its base does not belong to this structure. It is along the southern edge of the southern wall, 1.35m to the east of the western end of the wall. It measures 70 cm by 40 cm. A small circular posthole, which has a diameter of 15 cm, is located near the southeast corner in the wall.

#### *Structure no. 4G*

To the southern margin of the junction between MAIN STREET and LANE NO. 1 is located a rectangular structure with an orientation from east to west.

The northern wall, 6.35 m long and 60 cm wide and running parallel to the open space in the junction, has survived to a height of 15 cm. This wall extends further towards east and forms the northern wall of another structure located to its east. Since only



Figure 51 Farmana St. NOS. 4G, 4H and 4I, from southwest



Figure 52 Farmana Storage jar and a fireplace in St. NO. 4G, from southeast



Figure 53 Farmana Rectangular brick-lined pit in St. NO. 4G, from southeast

the northwestern corner of that structure has been excavated, it has not been numbered.

The western wall is partly excavated to length of 2.40 m. Its average width is 45 cm. At this stage, the exact length of this wall cannot be measured, as the southern portion of this wall extends beyond the excavated area. It has survived to a height of 20 cm.

The eastern wall is 3.80 m long and 35 cm wide. It has survived to a height of 15 cm.

From the southeastern corner, the southern wall runs straight towards the west for a length of 3.45 m and then takes a turn in right angle towards south, running from north to south, the extension of which is yet to be excavated (Figure 51).

This structure, which has a well-made rammed floor, has four features in it. Two are located along the inner edge of the eastern wall. One of them is a large storage jar of Red ware with a pointed flat base placed in a pit. It is 50 cm to the south of the northeastern corner. The upper half of the vessel has been cut away.

To its south at a distance of 15 cm is a rectangular fireplace running along the eastern wall. It is 1 m long from north to south and 55 cm wide from east to west and is 15 cm deep. The sides and the bottom of the fireplace that was lined with clay are burnt to brick red colour due to constant and long use (Figure 52).

Both these features are located on a mud brick platform of 90 cm broad made along the entire length of the eastern wall. It is 2.40 m long.

In the northwestern corner of this structure is located a small rectangular pit lined with bricks. It is located 60 cm to the east of the western wall along the inner face of the northern wall. It covers an area of 80 cm from north to south by 50 cm from east to west and is 20 cm deep. The eastern, western and southern sides of this pit are lined with a single brick line. The bricks are placed horizontally along the eastern and western sides, whereas they are vertical in case of its southern side of the fireplace (Figure 53). The total area enclosed by this pit including walls measures 85

cm from east to west by 1.20 m from north to south. This could be a water storage pit as it is plastered with clay on the inner side.

A small circular pit of 30 cm in diameter is found to the east of the rectangular brick-lined pit at a distance of 30 cm. It is 10 cm deep and could be a depression to accommodate a round-based pot. This structure has a well-made floor rammed hard and plastered floor and on the basis of the contents could be identified as one of the kitchens of the complex.

#### *Structure no. 4H*

Only a small northern portion of the structure over an area of 2.45 m from east to west by 1.70 m from north to south has been excavated. The western wall of ST. NO. 4G forms the eastern wall of this structure. The western wall excavated to a length of 1.10m is 45cm wide and has survived to a height of 15 cm. The northern wall is 3.63 m long and 55 cm wide (see Figure 51). It has survived to a height of 20 cm. It has a well-made floor, but at this stage the exact function of this structure cannot be identified since major portion of this structure is yet unexcavated.

#### *Structure no. 4I*

To the west of ST. NO. 4H is located another structure, probably squarish on plan. The southern wall of LANE NO. 2 (ST. NO. 4C) forms the northern wall of this structure. This is 1.10 m more towards the northern side compared to the northern walls of ST. NOS. 4G and 4H. Only the northeastern corner of this structure has been excavated (Figure 51) and therefore its function cannot be determined at this stage. Major portion of this structure underlies the southern unexcavated portion.

### FUNCTIONAL ANALYSIS OF STRUCTURAL COMPLEX NO.4

On the basis of contents and their locations, different

households within this complex could be identified. ST. NOS. 4A and 4B located on the eastern side of LANE NO. 2 could be independent units for the security personnel. They are located close to the open square that divides the settlement into number of units. Most probably the passage to STRUCTURE COMPLEX is through LANE NO. 2 that passes through its centre. LANE NO. 2, however, was closed by mud brick wall sometime later towards its northern end that emptied into LANE NO. 1.

ST. NOS. 4D, ST 4E and 4F may have formed one unit (household) within this complex, as it includes cooking and storage facilities along with the dwelling area. ST. NOS. 4G, 4H, and 4I located to the south of ST. NOS. 4A and 4B appear to be forming a separate complex. This complex looks relatively smaller than STRUCTURE COMPLEX NO. 3. As the complex is more towards its southern periphery of Locality 1 at the site and is relatively small in size, it is surmised that the occupant may not have held such a high social status in the society.

So far no evidence of any craft manufacturing activities could be found in any excavated structure complexes at the site of Farmana. This part of the site (Locality 1) may have functioned as a citadel and therefore the architectural evidence found here is so fabulous. The structures in this part of the site were arranged in a proper grid pattern and made from very fine-quality brickwork. Besides, these structure complexes were well furnished and contained a variety of objects, including a steatite seal and a terracotta sealing. The manufacturing activities may have been carried out in Localities 2 and 3 as that part of the settlement appears to be part of the lower town.

As the site was under cultivation and all the structures were made of mud or mud bricks, the features like fortification wall have not survived. Future work will shed more light on these various aspects.

## CHAPTER VII

# EXCAVATION AT CEMETERY SITE

### OUTLINE OF THE CEMETERY SITE

This is one of a few Harappan sites which are associated with cemetery. The other site in this region that has yielded similar evidence is Rakhigarhi. The cemetery at Farmana is located to the northwest of the habitation site at a distance of 900 m from the Datum Point located along the eastern margin of Locality 1. This cemetery was accidentally discovered this year, when the land owner (Mr. Ramdhari from the Seman village) was ploughing this land for lifting the soil. In fact, two burials were destroyed when he was digging ditch for lifting soil. Mr. Vivek Dangi and Mr. Vikas Pawar of the Department of History, M.D.

University, Rohtak, while surveying this site and the surrounding area, brought this discovery to the notice of the excavation team. Fortunately, the land owner allowed them to undertake sampling and collect pots, either broken or complete, which were detached from the burials and exposed on the surface while ploughing. The area that includes the burials spreads for roughly 1 ha in size (Figure 54).

Traces of a few burials were visible at a distance of 10 m to the east and northeast of the soil-lifting ditch. It was therefore decided to clean this area with a view of tracing any burial remains in this area. Two trenches measuring 7 m by 7 m were laid in the selected portion. On scraping in these trenches, the



Figure 54 Farmana Cemetery site before excavation, from southeast



Figure 55 Farmana General view of the excavated area showing distinct burial pits before excavation, from southeast

outlines of burial pits became very clear. The burial pits were dug in the natural alluvial soil, which is brownish/yellowish in colour. The colour of the soil, filled after placing dead bodies in them, turned slightly greyish/blackish in colour, which was very easy to distinguish from the natural soil (Figure 55).

Remains of seven burials were uncovered in these two trenches, six located in the western trench (Trench 1) and one in the eastern trench (Trench 2) (Figures 56 and 57). These burials have been given simple Arabic numbers.

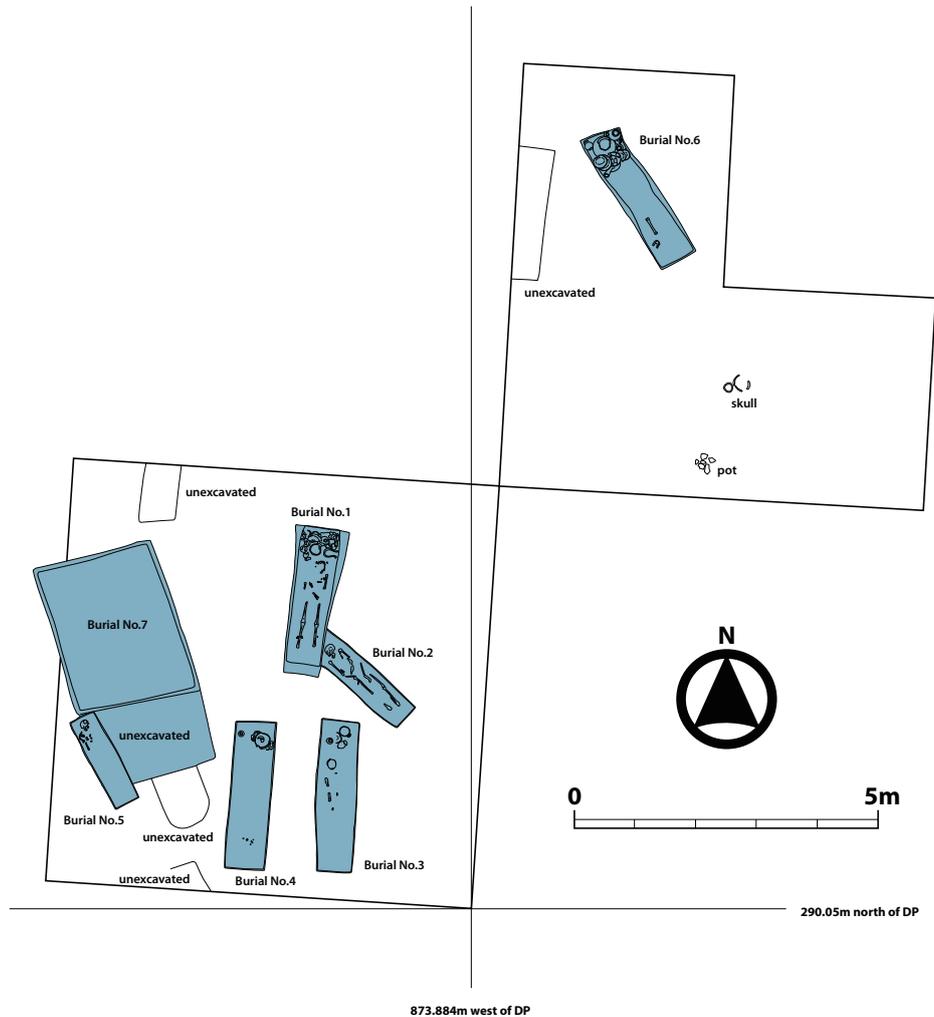
Most of the burials contain typical Harappan pottery (Figures 70 and 71) and jewellery, including beads of semi-precious stone such as carnelian, agate, steatite, etc., and shell and copper bangles (Figure 72). Three of the burials excavated are oriented in the north-south direction, whereas the remaining are oriented 30° from northwest to southeast. The pottery and ornaments found in them clearly indicate that these burials are comparable with cemetery R-37

found at Harappa.

The burials found at Farmana can be divided into three categories, i.e. primary, secondary and symbolic. In the case of the primary burial, the dead body was placed in a pit in a supine position with the head towards the north and the legs towards the south. The primary burial therefore contains a full skeleton *in situ*.

The secondary burial usually contains a few bones, which were collected from somewhere and buried in a pit ceremoniously. It is quite likely that the dead body was kept open for some time and a few surviving bones were collected and buried in a pit.

One very large pit located in proximity of the excavated burials was devoid of any skeletal remains but contained fragments of a few small pots. This has been identified as a symbolic burial. It is quite likely that the dead body of the person was not retrieved but they thought it fit to give ceremonious burial without the dead body.



Figures 56 Farmana General plan of the excavated burials (1:125)

All the burial pits excavated so far are of the human life-size and rectangular in shape with their sides cut perfectly vertical and the bottom flat. This has been the hallmark of the site of Farmana, as all the small pits, including fire-pits, no matter whether they are connected with the burial or habitation activity, are usually rectangular in shape.

The number of pots and jewellery found in burial pits varied from burial to burial, depending possibly on the social and economic status of the individual. The presence of burial goods clearly suggests that the people in the Mature Harappan period believed in life after death.

The description of the burials excavated at Farmana is given below.

## PRIMARY BURIALS

The following are the two primary burials excavated during this season.

### BURIAL NO. 1

This was the first burial that was spotted and excavated at the site. It is 4 m to the east of western section of the Trench 1 and 85 cm to the south of the northern section. This burial pit oriented in the north-south direction is 2.40 m long and the width varies from one end to other end. It is 87 cm towards the north and 60 cm towards the southern end, whereas in the middle it is 73 cm. As the upper portions of the burial pit was sliced during the removal of soil by tractor, parts of the pit, burial pots and the skull of the skeleton were badly damaged. The depth of the burial pit survived is



Figures 57 Farmana General view of the excavated burials, from south

15 cm.

The dead body in the north-south direction with head towards the north and legs to the south is placed in a supine position facing upwards and straight. Both the legs are straight, whereas the hands are placed on the lower abdomen in a crossed position. The total length of the skeleton is 1.50 m. The length of legs is 80 cm. The neck portion, ribs and parts of right hand are damaged (Figures 58 and 59).

The person was buried with two necklaces, one made of globular copper beads, the other of barrel-shaped carnelian beads, which are visible near its left shoulder bone. Remains of numerous steatite disk beads are found on left and right side of the skull. It is quite likely that they are part of a forehead band. The person was probably also buried with anklets made of steatite beads, the remains of which are found near both the left and the right ankles.

This burial contains numerous pots immediately to the north of the head. In all, 25 pots were placed and

they include one dish-on-stand, one small S-shaped jar, one bowl-on-stand, three dishes, five beakers of different sizes, the rest being globular pots of small to medium size with flat bases (Figure 60). The condition of the skull and the legs is good but that of ribs, hand-bones and vertebrae is brittle. The skeleton probably belongs to a teenager.

The rich burial goods from the burial indicate the status and may have belonged to a person of higher social class in the society.

#### BURIAL NO. 2

This is another primary burial excavated at Farmana, which is oriented 30° from northwest to southeast. This burial was earlier than BURIAL NO. 1 as its pit towards its northern end is cut by the pit of BURIAL NO. 1. The skeletal remains of this burial are the best preserved amongst the excavated burials at Farmana as it was away from the plough zone.

The dead body was placed in the north-south

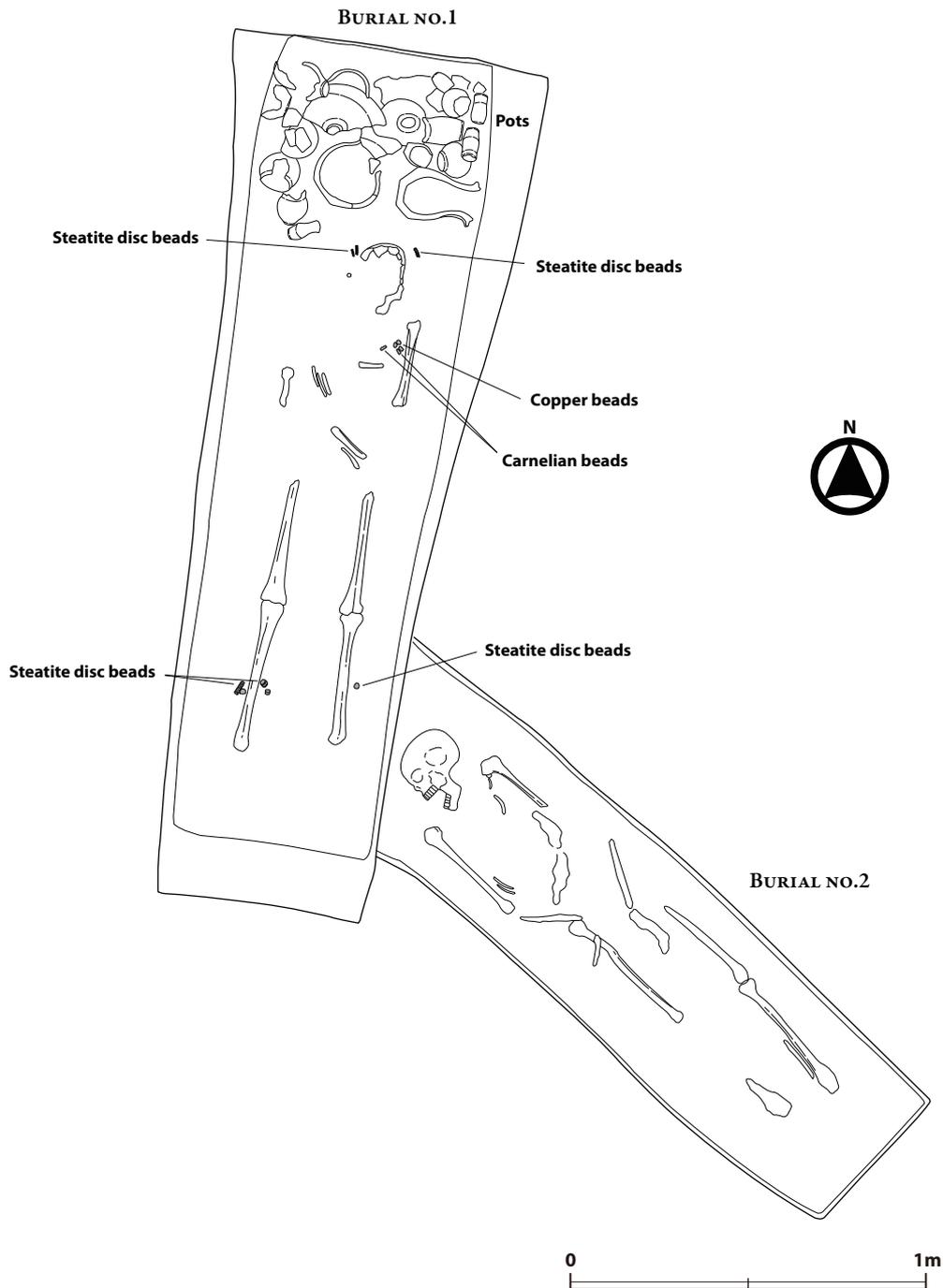


Figure 58 Farmana Plan of BURIAL NOS. 1 and 2

direction in the pit with the head towards the north and the legs towards the south. The rectangular burial pit is 1.94 m long and its width varies from 60 cm towards northern end to 48 cm towards the southern end (see Figure 58 and 59). At present the burial pit looks devoid of any burial goods, but it is quite likely that some pots were placed at the northern end of the pits, which may have missed when the later burial pit (BURIAL NO. 1) was excavated. This surmise is based

on the fact that in all the burials except the symbolic one, burial pots are found placed at the northern end.

The dead body inside the pit was placed in an extended and supine posture. The head of the person is tilted towards the south. The legs are straight and the lower arms placed crossed over the lower abdomen. The total length of the skeleton is 1.59 m. This skeleton appears to belong to a fully-grown adult as it has almost all the teeth and robust bones.



Figure 59 Farmana BURIAL NOS. 1 and 2, from northeast



Figure 60 Farmana Funerary pots and jewellery in BURIAL NO. 1, from west

Most probably there was a deformity in both the legs, as they are slightly curved and not straight. The ribs, phalanges and toe bones could not be exposed because they are almost merged with the soil.

## SECONDARY BURIALS

The largest number among the excavated burials falls in this category. As no complete skeletal remains are found in these burials, there is a strong possibility that the dead body was kept in the open for sometimes and subsequently some surviving bones were collected and buried ceremoniously.

### BURIAL NO. 3

Located to the south of BURIALS NOS. 1 and 2 at a distance of 70 cm, this is one of the secondary burials excavated at the site. The burial pit, 2.55 m long and 75 cm wide, is perfectly rectangular, oriented in the north-south direction.

Due to ploughing, the burial has been badly disturbed. The skeletal remains inside the pit placed in the northern part of the pit consist of partly broken skull and few long bones (Figures 61 and 62).

The presence of one barrel-shaped agate bead in the burial pit suggests that the necklace was part of burial goods. In the right ankle was found a shell bangle.

The skeletal remains inside the pit are oriented from north to south with the head towards the north.

To the north of the skull, at a distance of 20 cm, were placed possibly six pots, out of which three have survived now. Of the three pots, two are saucers and one goblet of medium size with a short vertical neck, a round body and a disk base. It appears from the impressions of pots that in addition there were a dish-on-stand and two beakers placed inside. The pit is survived to a depth of 8 cm.

### BURIAL NO. 4

This burial was located parallel to BURIAL NO. 3 and at 72 cm to its west. It is also oriented in the north-

south direction. The burial pit is perfectly rectangular, 2.40 m long and 70 cm wide and has survived to a depth of 6 cm.

The skeletal remains inside the pit consist of a few bones of the lower extremities (see Figures 61 and 62) with possibly anklets made of steatite beads, many of which were found scattered in the southern part of the pit. Towards the northern part of the pit, 20 cm to the south of the northern end, were placed seven pots, consisting of three saucers (dishes), one globular pot of medium size and one small shallow bowl, flanked in the middle by one goblet in the east and one small miniature globular pot on the west. The pots in the middle are kept one above the other with dishes at the base and small shallow bowl on top.

### BURIAL NO. 5

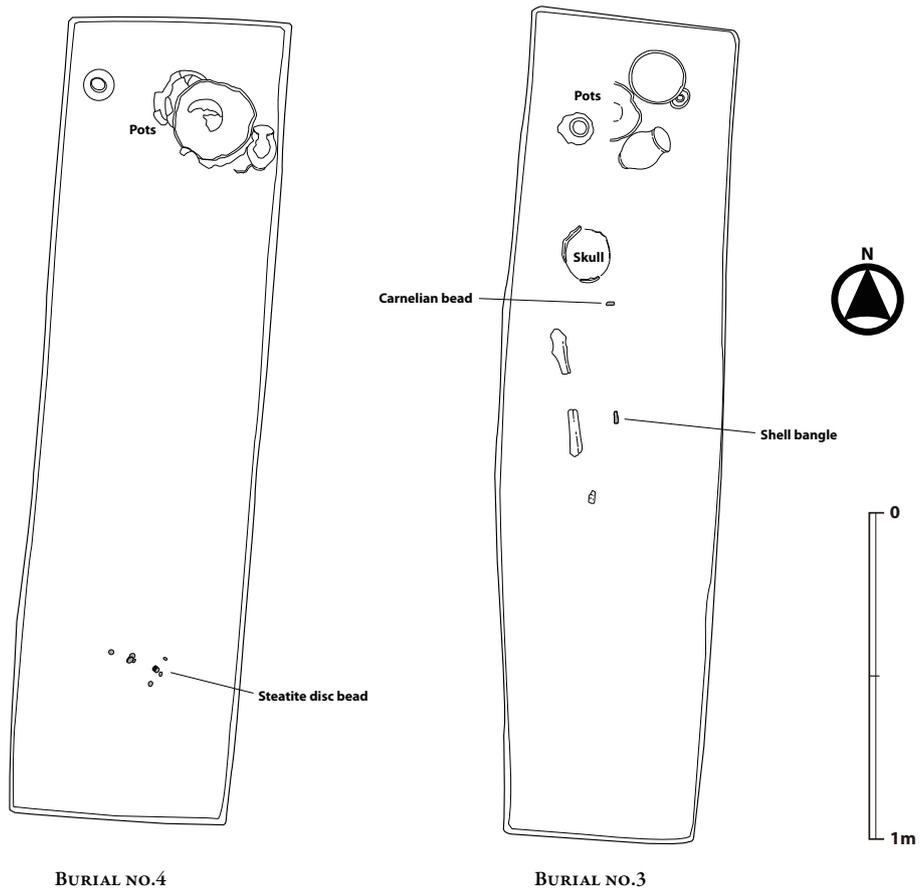
This is a fractional burial of a child that is located 1.50 m to the west of BURIAL NO. 4. The burial pit, which is rectangular measuring 1.64 m by 47 cm, is oriented 30° from northwest to southeast.

The burial pots kept inside may have been removed, as this is close to the surface and within ploughing zone, and therefore the burial looks devoid of any burial pots.

The skeletal remains located in the north-south direction, consists of the upper half (above abdomen) with a skull towards the north. The left hand and some ribs on the left side are missing. The right half of the trunk is present, consisting of a complete right hand and ribs (Figures 63 and 65). A double copper bangle is present in the right hand in the upper part of the radius bone (Figure 66). The length of radius bone is 25 cm, whereas that of humerus is 14 cm. The skull is badly damaged and therefore the facial features and the teeth are not clear.

### BURIAL NO. 6

This burial is located 6.80 m to the northeast of BURIAL NO. 1 in the northwestern part of Trench 2. This is also a secondary burial oriented 40° from



Figures 61 Farmana Plan of BURIAL NOS. 3 and 4



Figure 62 Farmana BURIAL NOS. 3 and 4, from south

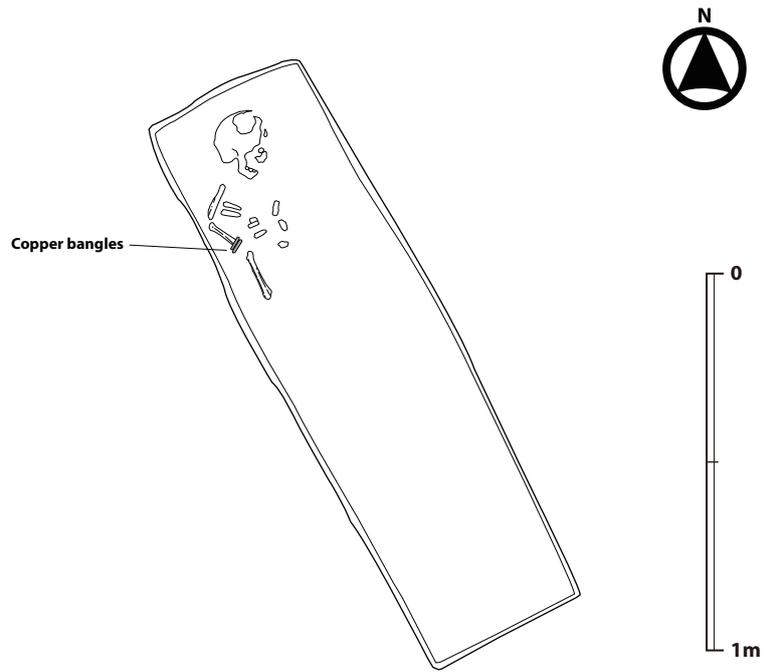


Figure 63 Farmana Plan of BURIAL NO. 5

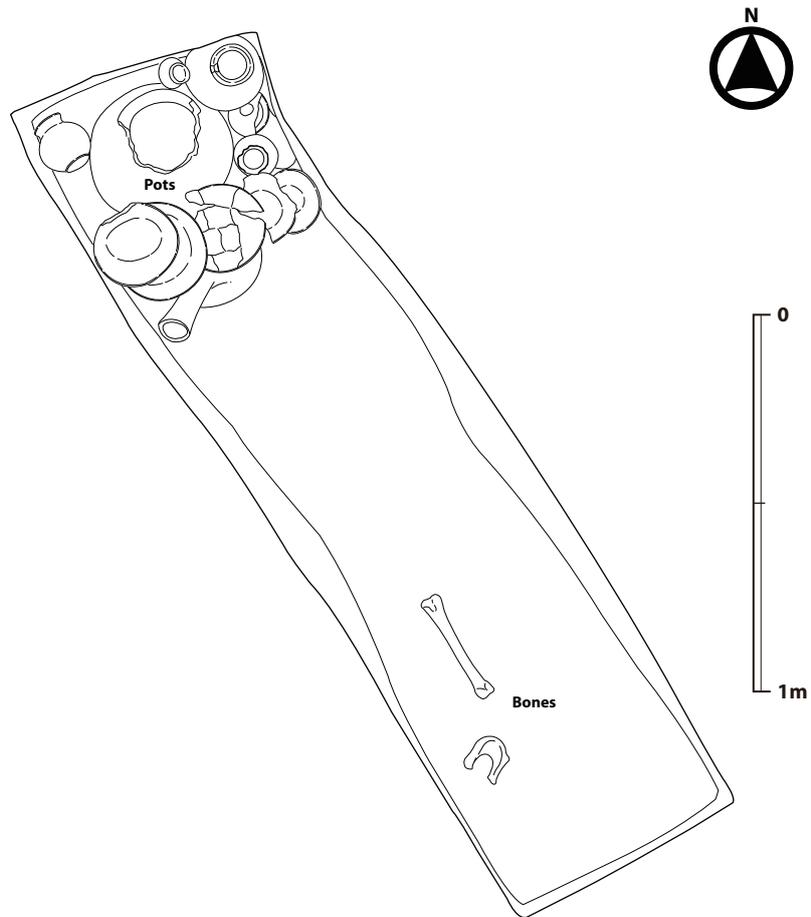


Figure 64 Farmana Plan of BURIAL NO. 6



**Figure 65** Farmana BURIAL NO. 5, from southeast



**Figure 66** Farmana Close view of the skeleton with grave goods in BURIAL NO. 5, from southwest



Figure 67 Farmana BURIAL NO. 6, from southeast



Figure 68 Farmana Close view of grave pots in BURIAL NO. 6



Figure 69 Farmana Location of BURIAL NOS. 1-5 and 7

northwest to southeast. The rectangular burial pit is 2.56 m long and 70 cm wide. This is quite a deep pit (35 cm) and therefore the pots inside are well preserved.

Only two bones are found lying in the pit—a lower jaw of a fully grown and healthy adult lying 38 cm to the north of the southern end and 11 cm to the east of western pit-line, and the right humerus 10 cm to the north of the jaw and 22 cm to the east of the western pit-line. It is 30 cm long and oriented parallel to the pit-line (Figures 64 and 67).

In the northern end of the pit are stacked 16 pots (Figure 68). In the middle is a large globular pot with a beaded rim of 20 cm in diameter. To its east are one dish, one S-shaped jar covered with a lid, one bowl-on-stand, two goblets and one round pot of medium size with a lid which is broken. To its south are three dishes, a large dish-on-stand, the dish of which is detached and one bowl-on-stand. To its west is a fragment of a dish and a small globular pot with short

out-turned rim and a ring base, and a goblet.

## SYMBOLIC BURIAL

One burial found in the excavation devoid of any skeletal remains has been termed as the symbolic burial.

### BURIAL NO. 7

To the west of BURIAL NO. 1, at a distance of 1.40 m from the southern end of BURIAL NO. 1, is located a very large rectangular pit. It is oriented 20° from northwest to southeast. The length of the pit is 3.75 m and the width of 2 m. It is 84 cm deep. The southern part of the pit for a length of 1.10 m has not been excavated because of the presence of BURIAL NO. 5 along the western margin of the pit.

This burial pit is devoid of any skeletal remains (Figure 69). It has yielded a few potsherds and half portion of a goblet. Considering the size of the pit,

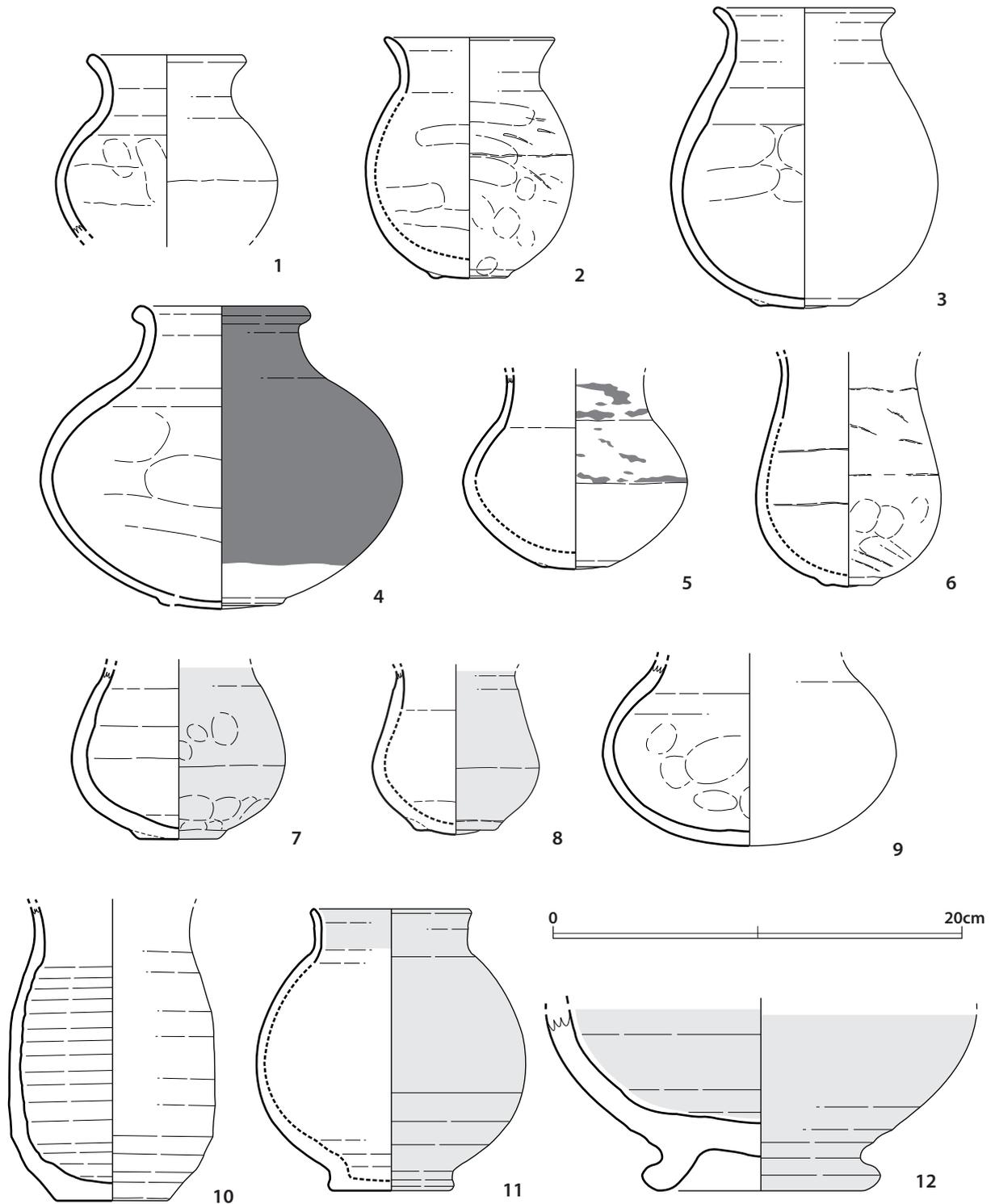


Figure 70 Farmana Representative grave pots, surface collection (1:3)

this burial appears to belong to a very important person whose body could not be retrieved. Similar symbolic burials have also been reported from the cemetery site of Sanauli in Baghpat District of Uttar Pradesh in the Yamuna Basin, which is adjoining the Ghaggar Basin (Sharma *et al.* 2005-06). There is another similar example from a distant Chalcolithic

site of Inamgaon in the Deccan Plateau at the middle of second millennium BCE (Dhavalikar *et al.* 1988).

### PRELIMINARY OBSERVATIONS

The general pattern emerging from the excavated burials is that there were two orientations of the



Figure 71 Farmana Representative grave pots, surface collection



Figure 72 Farmana Jewellery from Cemetery site, surface collection

burials, one in the north-south direction and the other in the northwest-southeast direction. Could it be that there were different groups of people and each one had burial custom differing slightly from others? The cemetery site of Sanauli has all the burials placed in the northwest-southeast direction, implying that this orientation may have been the most common custom in this region.

The other important characteristic feature noticed is that the pots are always kept near the northern end of the pit. The different types of pots present in the burials may have contained water and food for the deceased person. Besides, there is also evidence of jewellery buried with a dead body, including beads of steatite, carnelian, agate, etc., and bangles of different dimensions of copper (Figure 72). This is significant evidence that leads to surmise that the people in the Mature Harappan period believed in the life after death.

The cemetery at Farmana can be dated to the Mature Harappan phase as the typical Mature Harappan pottery is found associated with them. Typical Mature Harappan shapes, such as small S-shaped pots, goblets, beaker, globular pots, dishes,

long-stemmed slender dish-on-stand, etc., are part of burial pots at Farmana (Figures 70 and 71).

There are two more Harappan cemeteries at Bedwa and Puthi Seman reported from the vicinity of Farmana (Kumar 2005-06; Shinde *et al.* 2008). Both of them are roughly 3 km away from Farmana and cannot be associated with the habitation site of Farmana as both of them belong to the Late Harappan phase and the pottery shapes do not match with those found at Farmana.

On the basis of burial goods and the nature of pits, BURIALS NOS. 1, 6 and 7 appear to be either of rich persons or of those whose status in the society was high.

The evidence of burials excavated at Farmana is scanty and highly disturbed, which cannot be used to generalize assumptions. More data and anthropological and scientific studies of the human bones will surely throw light on various aspects including composition of human population, prevalence of diseases and general health, movement of the people and their interactions, socio-economic aspects, dietary patterns, beliefs of the people, demography, etc.

## CHAPTER VIII

# POTTERY

### OUTLINE OF POTTERY FROM PERIOD II

The excavation in this season was mainly confined to the Mature Harappan period (Period II) and therefore this report deals with pottery of only that period. In the course of the excavation, the entire pottery was recorded separately from regular layers, structures and other features. However, only representative pottery has been described in this report.

The ceramic assemblage at the site of Farmana constitutes a Red ware industry with varied surface treatments ranging from mud appliqué or slurry-applied to incised decorations and a chocolate/black slip on the body. The ceramic industry as a whole appears to have been derived from the Early Harappan Regional Hakra tradition from the Ghaggar region, including the northwestern Rajasthan.

The assemblage has been classified on the basis of the differential surface treatments, since the fabric, finesse and shapes are similar throughout the industry. The Grey wares forms a very small part of the assemblage, probably less than 1 %, while the Bichrome (black and white) painted Red ware accounts for an even smaller quantity.

The vessels are made of medium to fine fabric without any gritty inclusions, though the presence of tempering in the form of fine sand is clearly visible. The clay is well levigated and therefore the core has become very compact. Some vessels are made on a wheel and in others the use of the luting techniques and the slow turntable are used for modelling.

The vessels are light-weight, medium to thin bodied, except for storage jars that are heavy with a thick body. In most cases, the pottery has a self-slip

with smooth surface, while instances of a light to bright red slip or wash have also been noticed.

The vessels are very well fired probably using a closed kiln, with orange to brick red in colour with an oxidized red to orangish core. Since the ceramic industry predominantly constitutes of Red ware, the wares have been classified keeping in mind the distinctive surface treatment used.

### GENERAL FEATURES OF STYLISTIC GROUPS

#### PAINTED WARE

This fine-grained ware falls under the broad category of Red ware. It is mostly painted on the outer surface but sometimes the painted motifs can be seen on the inner surface of the rim portion. The paintings are done with black pigment over a red background. According to the Munsell colour chart, the colour of the surface is orange (2.5YR 6/6) and that of the black pigment is dark reddish brown (5YR 3/2). The thickness of the wall varies from 1.2 cm to 3.8 mm. The core indicates uniform firing and the colour is the same as that of the surface. The clay rarely contains mica and *kankar*. This is one of the most dominating wares at the site in the Mature Harappan phase.

The painted designs are mostly in geometric patterns like horizontal and vertical bands, circular lines, dots, dashes, chevrons and criss-cross (Figures 76 and 77). But some of them do have natural motifs like leaves or flower petals, wavy bands or lines, fish in water and also scorpion.

As far as the shapes are concerned, they include mostly large narrow- and wide-mouthed globular pot with either a constricted neck or an out-turned rim,

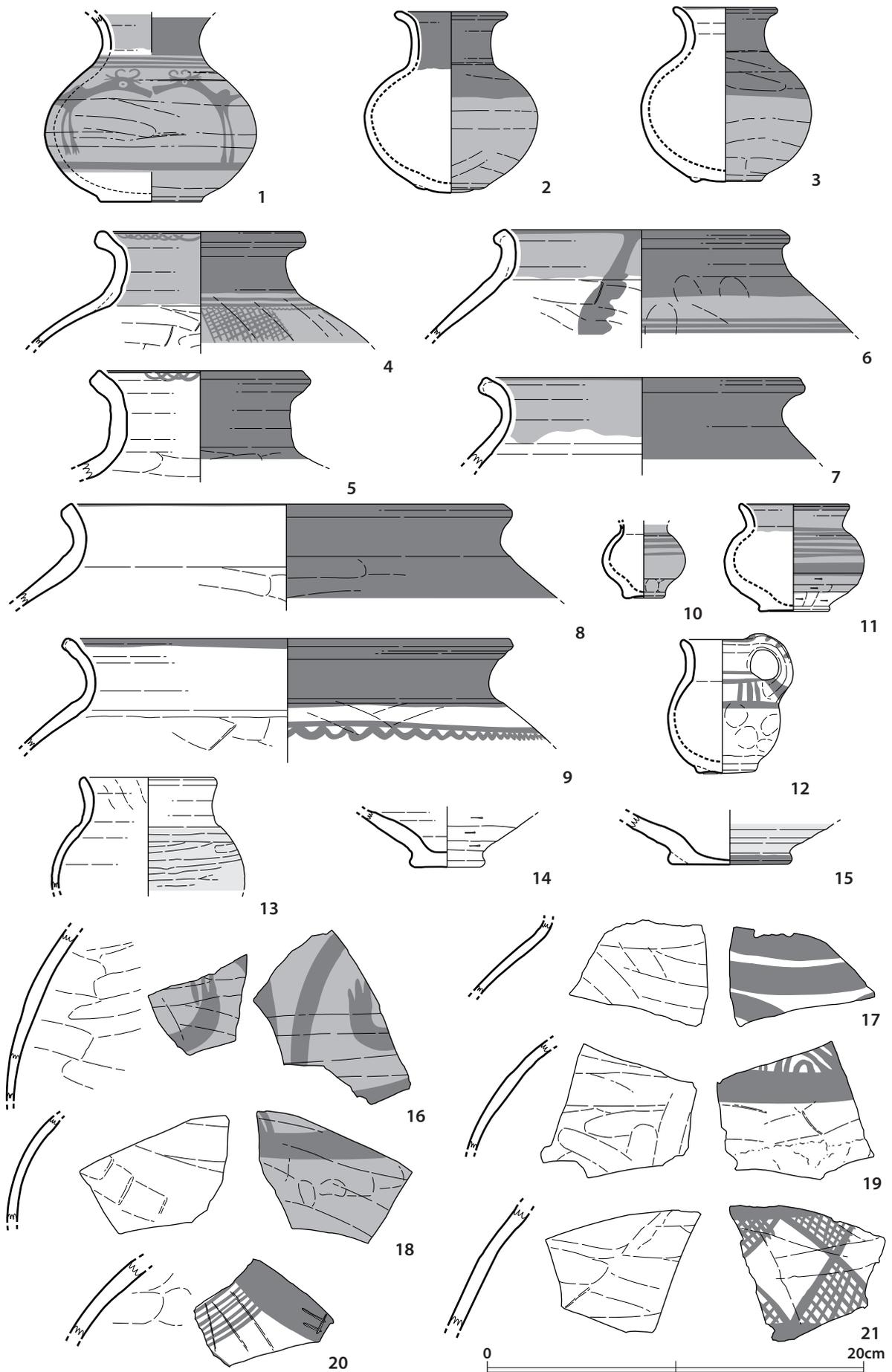


Figure 73 Farmana Representative types of pottery, from the excavation (1:3)

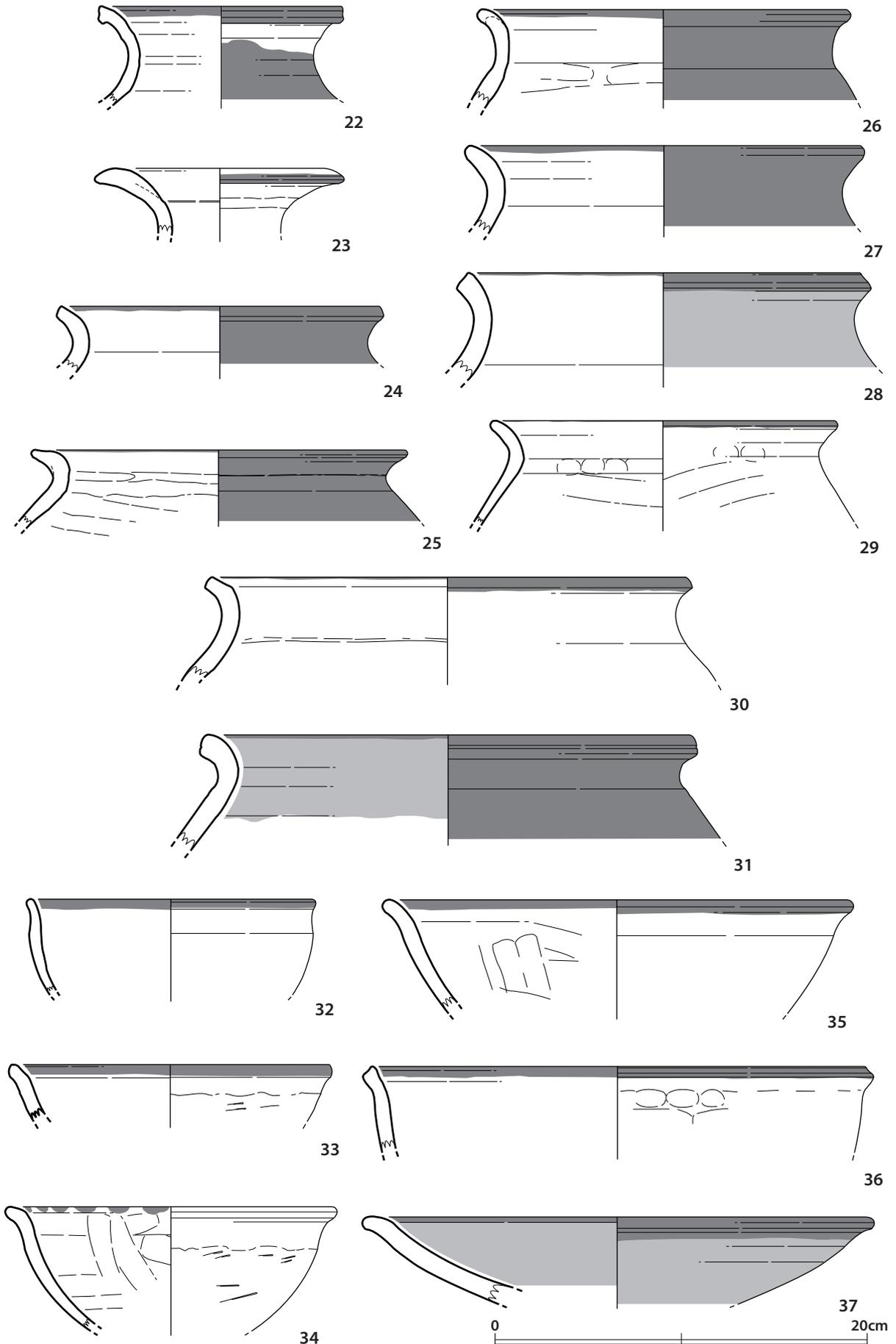
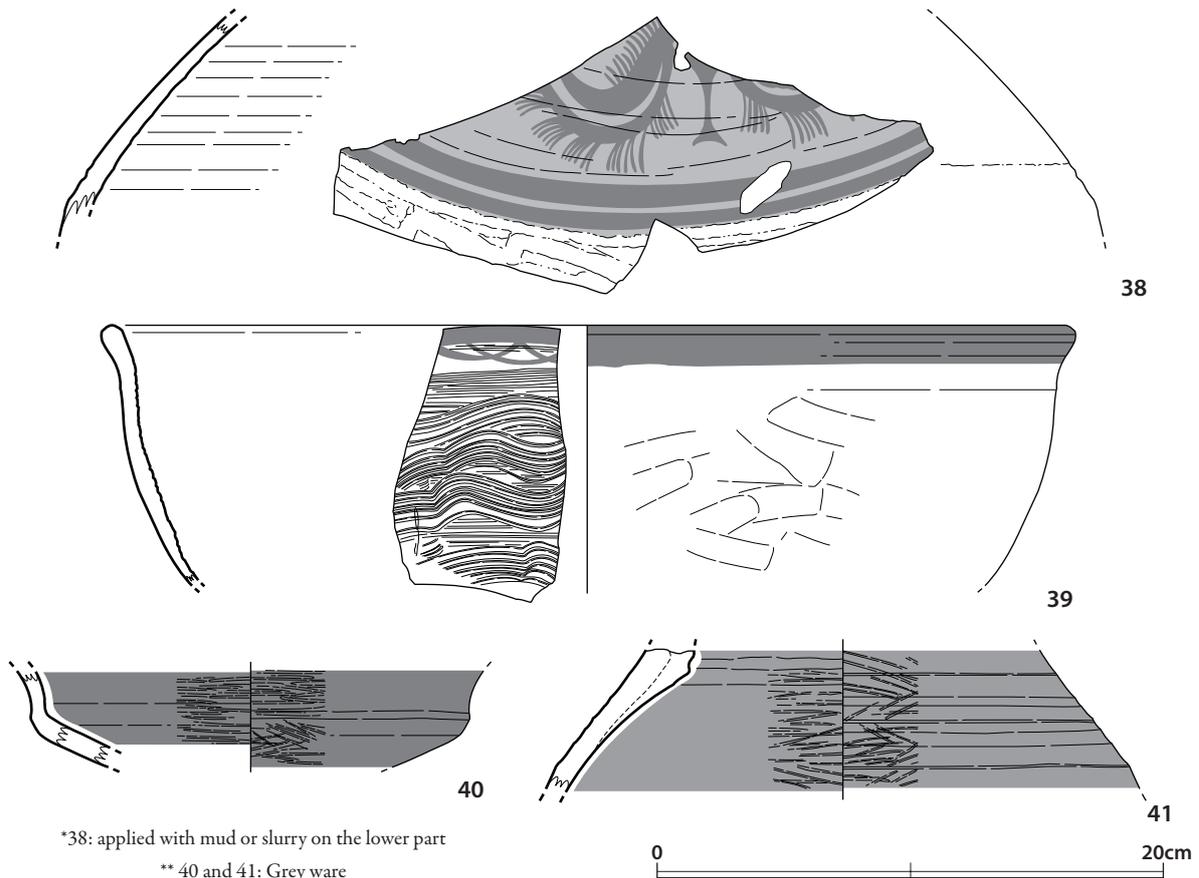


Figure 74 Farmana Representative types of pottery, surface collection (1:3)



\*38: applied with mud or slurry on the lower part

\*\* 40 and 41: Grey ware

Figure 75 Farmana Representative types of pottery, from the excavation (1:3)

large basin, bowl of small to medium with featureless rim, some of which with a loop handle, goblet, dish, *tawa* (frying pan), dish-on-stand, lid, etc (Figures 73 and 74).

One of the small globular pot with a short vertical neck and an everted neck with a pair of bulls painted in black colour on its body is a unique discovery at Farmana in this season (Figure 79). The bulls painted are shown facing each other and standing still in a vertical position with slender curved horns, elongated slender body and long muzzle.

#### RED SLIPPED WARE

It is a fine ware made from well-levigated clay and falls under the broad category of red ware but applied with slip either on both the surfaces or on any one of them. The colour of the slip varies from dark red (10R 3/4) to red (10R 5/6), bright brown (2.5YR 5/6) to reddish brown (2.5YR 4/6) and also in different shades of orange (2.5YR 6/8-6/6). The slipped surface

of the pot is usually well burnished. The thickness of the core varies from 3.8 mm to 1.7 cm. The core contains mica and *kankar* (very less) and is uniformly fired red. The shapes included are narrow-mouthed globular pots and wide mouth, carinated dish, large storage pots with clubbed or beaded rims (Figure 73 and 74).

#### RED WASH WARE

This is also a fine-grained ware, which falls under the broad category of Red ware. The outer surface is treated with a thin wash. The colour of the wash varies from orange (2.5YR 6/6), light grey (2.5Y 8/2) to light brownish grey (7.5YR 7/2). The thickness of the core varies from 1.8 cm to 3.8 mm. The core contains mica and *kankar* (very less). Some of the pots of this ware bears punctured designs or very occasionally stamped impressions.

The common shapes found in this ware include the narrow-mouthed globular pot, S-shaped jar, beaker in



Figure 76 Farmana Painted pottery, from the excavation (*ca.* 1:2)



Figure 77 Farmana Painted pottery, from the excavation (*ca.* 1:2)



Figure 78 Farmana Painted pottery, from the excavation (ca. 1:2)



Figure 79 Farmana Small pot painted with a pair of bulls, from the excavation

different size, *tawa* (frying pan), storage jars, goblets, etc (Figures 73 and 74).

#### PERFORATED WARE

This ware falls under the broad category of Red ware, this Perforated ware is also made from very fine clay without adding any tempering in it. The surface of the perforated vessels is not slipped and bears perforation all over the surface, the average diameter of which 7 mm. The average thickness of the core varies from 6 mm to 1cm. The ware is uniformly fired in high temperature. Sometimes, either a black painted band or incised parallel horizontal lines in a group are found just below the rim portion. The most common shape found at Farmana is cylindrical jar with a sagging base and a flat projecting rim.

#### RESERVE SLIPPED WARE

This ware falls under the broad category of Red ware and is also very fine. The name is so given because of the design made on the outer surface in the form of parallel wavy bands or lines by scooping out the outer slip by most probably a comb-like instrument, giving an appearance of a relief.

The ware at Farmana is first treated with red wash (background) (2.5YR 6/6) over which dark reddish brown (5YR 3/2) slip is applied, some portions of which are scooped out to make different patterns (Figure 83).

There are a few potsherds of Red ware with buff slip, which is scooped out to form designs of parallel bands. The former type has generally thin core, not exceeding 6 mm, whereas the latter type the thickness varied from 5 mm to 1 cm.

The shapes are difficult to discern as the ware has survived mostly in broken body sherds. However, the angle of some of the body sherds helps visualize shapes like small globular pots.

#### PERIANO RESERVE WARE

This ware was first identified at the site of Periano

Ghundai by Fairservis (1959) and spreads over a large area upto Kalibangan and now has been found at the sites of Girawad and Farmana, probably the easternmost extremity of the influence zone of the Cholistan-Hakra cultural assemblage (examples from the excavation at Girawad are shown in Figure 80).

The surface treatment of this ware includes the application of sandy-clay coating or a slip on the surface of the leather hard vessel to give the appearance of a very smooth exterior surface over which broad wavy and horizontal parallel grooves in low relief are executed (Figure 80).

The decorative element is restricted only to sandy clay-applied surface and has been identified by Mughal (1997) as a "striated surface". This decorative element is common on the large and thick storage vessels which are made by the coil method as is evident at breakage points (typically along coils), where the sandy-clay slip is clearly visible as a thick coating. The fabric is fine without any inclusions and is fired very well to a brick red colour throughout the thickness of the vessel.

In case of a few vessels, the lower portion has smooth slip, even burnished, whereas the upper slip is a mixture of clay and sand and in most of the cases both the surfaces are applied with mica wash. The colour of the lower slip varies from light grey (10YR 8/2) to red (7.5YR 4/6), whereas that of the upper slip varies from dull orange (5YR 6/4) to reddish brown (10R 5/4). The thickness of the core varies from 6 to 8 mm.

#### CHOCOLATE/BLACK SLIPPED WARE

Chocolate/Black Slipped ware, one of the most predominant in the Early and Mature Harappan levels at Farmana, is basically a well-fired Red ware, though in some cases the core is greyish showing lack of complete oxidation. The vessels are treated with a dark slip. The colour of the slip ranges from chocolate, purple, brown to black (5YR 4/2-5/2), probably depending upon the constituency of the colour



Figure 80 Girawad Periano Reserve ware, from the excavation (ca. 1:2)



Figure 81 Farmana Chocolate Slipped ware, from the excavation



Figure 82 Girawad Mud Appliqué ware, from the excavation (left: *ca.* 1:2; right: *ca.* 1:4)

solution used. Thinner the solution lighter the colour, to a point that in some cases the slip is more like a wash, with the basic red colour of the vessel clearly visible below the slip. The slip sometimes used is very thick and clayish literally forming a layer on the vessel, which has been peeled off in many parts. In case of a very thick slip, the colour appears to be black and also gives a glossy effect but in a few instances they are burnished. However, the presence of mica in the clay gives a glossy sheen to the ware.

The slip is applied from the rim to the base or up to the belly, and the part below the belly is sometimes rusticated or left plain and unfinished without any surface treatment (Figures 81). In most cases, the slip even continues till the inner lip of the rim or is applied as a band on the inner side of the rim. In some instances, the slip is applied in various tones i.e. varying from light to dark creating a self-pattern.

A few sherds of this ware have a painted band on the edge of the rim with diagonal strokes emanating from them, while some have a composite decoration on the neck just below the rim of a single band with connected triangle below which are joined together with loops. However, such complex decorative patterns seem to be rare in the assemblage suggesting a preference for a wide dark band from the rim to the belly sometimes stretched to the base.

It seems that this ware has a lot in common with the Hakra Black Burnished ware, as it is finer when

compared to rest of the assemblage, with a thin to medium-thick body and a compact exterior surface because of the fine clay used.

This ware is also manufactured in parts with the rim and base turned out carefully on a wheel with regular parallel striations, while the body is undulating from the interior and the exterior. The interior has paring and scooping marks and clearly shows joint or luting marks with thick sections and finger impressions.

Most of the shapes include vessels of small to medium size including globular pot with a short neck, a wide mouth and an everted or out-turned rims, and globular jars/vases with a tall neck and a comparatively narrow mouth. An important characteristic of this ware is its well-made thin ring bases that are modelled by luting of a ring to the pot. Disc and flat bases are not uncommon either. The thickness of the core varied from 4.4 mm to 8.2 mm.

#### MUD APPLIQUÉ WARE

Mud Appliqué or slurry-applied ware is basically Red ware with a thick coat of mud mixed with sand or grit (examples from the excavation at Girawad are shown in Figure 82). The vessels are made with slow rotation as is evident from the uneven striations and is often made in parts and then joined or luted together.

The vessels in this category are mostly medium-sized with a thin and medium-thick body, and large and thick storage jars. Although the vessel has a compact



Figure 83 Farmana Incised ware and Reserve Slipped ware, from the excavation (ca. 1:2)

feel due to the fine well-levigated clay used, it is not well finished with marks of scooping, paring and even finger impressions on joints.

The basic shapes include medium to large globular pot with an everted and short neck and an out-turned rim of varying diameter. A large number of basins and troughs have also been found in this category. As is evident from the sherds, mud coating is applied from below the rim on the neck to the base or from the belly to the base. In most cases, the vessel has a self-mud slip, while in a few instances, a light orange wash or dull red slip up to the belly has also been noticed.

In case of basins, the interior surface is slipped, while the exterior is rusticated or slurry-applied. In some, the interior surface is decorated with an incised wavy pattern. Flat and thick disc bases with mat impressions are also found in this category where the disc bases belong to troughs and basins while the plain flat bases are of globular pots (Figure 82).

The application of mud or slurry is done before

firing during the leather hard condition of the vessel, as this layer has been often peeled off in places in due course of time. There are various body sherds and rims painted with black bands in the same fabric as the Mud Appliqué ware, and based on the evidence from other sites like Bhirrana (Rao *et al.* 2004, 2005, 2006) and the Cholistan area (Mughal 1997), it can be concluded that this was also followed at this site.

The thickness wall varies from 4 mm to 1.6 mm.

#### INCISED WARE

Incised ware at Farmana is well-fired Red ware with medium to fine fabric that is tempered with sand. The clay used is well levigated and hence the ware has a very compact fabric fired brick red to orange in colour. The pots are all without any slip, and in most cases a clayey slip is applied to give a smooth exterior surface. The interior is not well finished and is similar to the other types mentioned above.

The incised decorations consist of two types:



Figure 84 Farmana Grey ware, from the excavation (*ca.* 1:2)

1) Deep incisions using a very pointed tool probably a bone point, which include parallel lines, criss-cross or hatched patterns, rows of chevrons or a group of very closely incised chevrons, single wavy line, deep incised dots, etc. used in combination to form patterns.

The shapes include small globular pots or jars. Several rim sherds of basins have been found with incised marks on the lip of the rim.

Handmade crescent but flat-bodied handles have also been found in the same fabric that probably formed handles of the pots/jugs, attached from the rim to the mid-belly. Similar shapes have been found in the early levels at Girawad (Shinde *et al.* 2008) and Bhirrana (Rao *et al.* 2004).

2) The second type is more like the comb-incised ware described at Kalibangan. To create this pattern, a comb-like instrument is used on the vessel in the leather-hard condition to form multiple (three or five) rows of horizontal or wavy patterns. The incisions are not as deep as the above type nor are they shallow as

at Kayatha.

The vessels in this type are mostly well made and self-slipped. The shapes include globular pots and storage jars along with basins and troughs incised on the exterior shoulder to belly. Rarely the black bands were part of the decorative repertoire in this category especially in the comb-incised variety.

The thickness of the core varies from 6mm to 1.5cm. The cores are uniformly fired (Figure 83).

#### GROOVED OR CORDONED WARE

A few sherds of the Red ware with shallow, horizontal grooving on the neck and shoulder, executed with rotation during the modelling of pot either by skillful use of the thumb nail or a comb-like instrument. But the earlier skill usage seems more likely. The grooves, though not very deep, are closely spaced, but there are examples of broad grooves. Both styles are more superficial and applied on a secondary clay slip of the main body which are then applied with a red slip.



Figure 85 Farmana Typical Harappan pottery, from the excavation (*ca.* 1:2)

### GREY WARE

A small quantity of this ware was found in the excavations at Farmana (Figure 84). This ware is grey in colour and slipped on both the surfaces. The colour of the slip varies from brownish grey (10 YR 5/2) to greyish yellow brown (10 YR 5/2). Some pots are very well burnished. The cores are uniformly fired and vary in thickness from 1.5 mm to 6 mm. Shapes include carinated pots, globular vessels, dish-on-stand, etc.

### PRELIMINARY OBSERVATIONS

Most of the wares described above from the Mature Harappan phase are not the ones found in the classical Harappan sites like Harappa and Mohenjodaro. It is this feature of the ceramic assemblages that makes a regional variation of the pottery in the Ghaggar Basin during the Mature Harappan period. Some of the wares like Mud Appliqué, Incised, Chocolate Slipped, Periano Reserve wares, etc., form

the characteristic ceramic assemblages of the Early Harappan phase in the entire Ghaggar Basin. Some of the excavated Early Harappan sites on the Indian side like Mitathal (Suraj Bhan 1975), Sothi (Frenchman 1965), Kalibangan (Lal 1979), Kunal (Khatri and Acharya 1995), Bhirrana (Rao *et al.* 2004), Girawad (Shinde *et al.* 2008), etc., have already demonstrated the wide distribution of this ceramic assemblage. Similar feature was also noticed by M.R. Mughal (1997) in the Cholistan region of Pakistan. As there is a clear development of this ceramic assemblage from the Early to Mature Harappan periods in the Ghaggar Basin, most of the elements of the early culture, more particularly ceramic assemblages, have continued either with minor changes or without any change in the Mature Harappan phase. This has caused considerable regional variations within the Harappan Civilization.

The site of Farmana was also connected to the sites in the western Punjab like Harappa, as attested



Figure 86 Thin Red Slipped ware from Balathal

by the discovery of some typical Harappan painted pots (Figure 85). Their fabric is quite different from that of the local pottery, implying that those typical Harappan pottery were brought from some site in the western Punjab. The fact that only a handful of such sherds in the pottery collection at Farmana may also suggest that they were not manufactured at the site.

The site of Farmana also appears to have been connected to the contemporary Chalcolithic culture in the Mewar region of the Aravali Range. A few sherds of the Thin Red Slipped ware (Figure 86), one of the characteristic wares of the Ahar/Banas chalcolithic culture in Mewar, have been reported in a large quantity at the sites of Balathal and Gilund (Shinde *et al.* 2001). Similar sherds have been found in a very limited quantity at Farmana as well. The cultural relations between the Ghaggar Basin and the Arvali Range is one of new problems for further study. Further scientific study like the X-Ray Diffraction

Analysis on this pottery may provide some clue to evaluate this possibility.

The ceramic industry at Farmana presents a clear picture of the regional variation of the Harappan Civilization in the Ghaggar Basin. The assemblage is dominated by the presence of Incised, Chocolate and Mud Appliqué wares, which are also the characteristic wares of the early phase in this region. As there is a gradual development of the local ceramic tradition from the Early to Mature Harappan periods as is observed at Farmana, it seems likely that there was continuation of the Early Harappan ceramic tradition into the Mature Harappan period. The typical Harappan shapes, such as goblets, S-shaped pots, beakers, etc., are rare and the local pottery are not profusely painted with naturalistic motifs like the case at Harappa or Mohenjo daro. The shapes and painted motifs of the early phase continue in the Mature in this region.

## CHAPTER IX

# MINOR OBJECTS

The site of Farmana is very rich in artefacts as is evident from the surface scatter and the quantity of artefacts recovered from the excavations. A variety of artefacts made of various kinds of raw materials have been recovered. The following are the different categories of artefacts from Farmana.

### TERRACOTTA OBJECTS

Clay was the most commonly used material at Farmana, simply because fine quality of clay is easily available in the catchment area. As mentioned earlier, the mud and burnt brick industry in this region is famous because of the availability of fine clay. The excavation has revealed many artefacts of terracotta such as bangles, cart frames, wheels, animal figurines, cakes, etc. All these are made of fine clay and fired in quite high temperature.

#### TERRACOTTA BANGLE

Terracotta bangle is the most predominant artefact at Farmana. The bangles, all circular in shape, are in two varieties- single and double (Figure 87). The first one is very common, whereas very few double bangles have been reported. These bangles have been treated with slip and fired red in high temperature. These bangles of different sizes are circular in section and appear to have been hand-modelled. They are plain without any decorations on them. This particular artefact is the most predominant at the sites in Ghaggar Basin.

#### TERRACOTTA WHEEL OR PERFORATED DISC

In the collection, there are two types of wheels- one fashioned on potsherds and the other made of terracotta (Figure 88). The one made on potsherds

is plain and could be identified as either wheel or spindle whorls. Terracotta wheels made from fine clay and well fired are equally in good numbers. They are either plain or with prominent hub.

#### TERRACOTTA CART FRAME

A variety of bullock cart frames have been collected from the site. There are some rectangular in shape with double perforation in the centre on either ends and single perforations on all four corners (Figure 89). The other common variety of cart frame in Farmana is T-shaped with two perforations near the junction and sometimes at the end (Figure 90).

#### TERRACOTTA CAKES

The Harappan sites in the Ghaggar Basin are littered with a variety of terracotta cakes. They are in three basic shapes: triangular, circular and fist-shaped (Figure 91). All the cakes are made from fine clay and well baked. The triangular and circular ones are even treated with slip and burnished and may have been used for decorating floor or wall of structures. The fist-shaped ones are usually without such smooth surface. Some scholars have argued that the fist-shaped or *mustikas* as referred to by some, may have been kept in the fireplace to retain heat for a longer period. However, none of the fire-pits in Farmana have found these cakes in them.

#### TERRACOTTA BEADS

There are a few globular or large and small biconical terracotta beads from the Harappan levels at Farmana. Some of the large ones may have been used to decorate animals, mainly cattle. Usually the beads are red in colour, without any slip on them, but have



Figure 87 Farmana Terracotta bangle, from the excavation (*ca.* 1:1)



Figure 88 Farmana Terracotta wheel, from the excavation (*ca.* 1:1)



Figure 89 Farmana Rectangular terracotta cart-frame, from the excavation (*ca.* 1:1)



Figure 90 Farmana T-shaped terracotta cart-frame, from the excavation (*ca.* 1:1)



Figure 91 Farmana Fist-shaped terracotta cake, from the excavation (*ca.* 1:1)



Figure 92 Farmana Terracotta animal figurine, from the excavation (*ca.* 1:1)



Figure 93 Farmana Painted terracotta animal figurine, from the excavation (ca. 1:1)

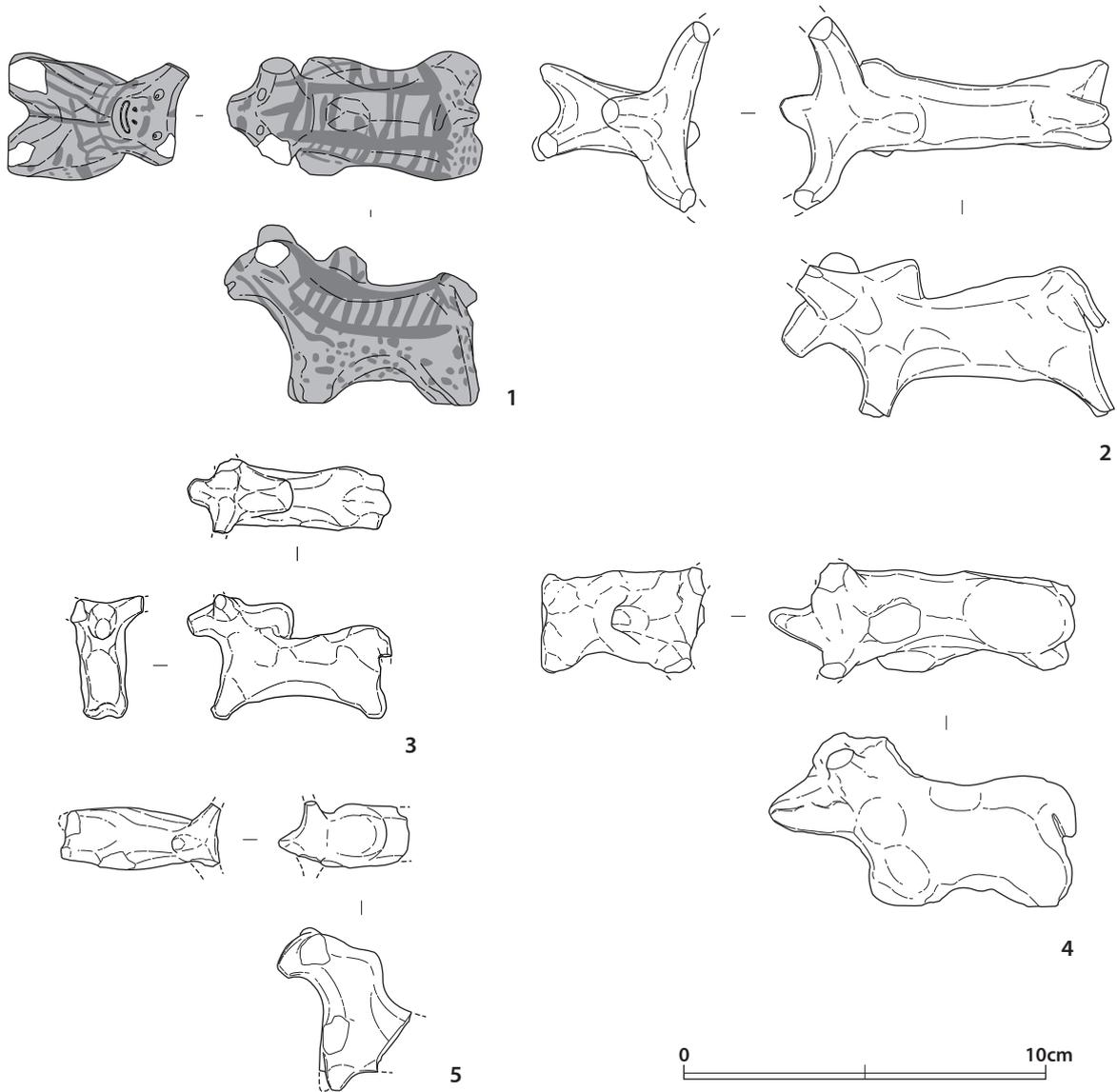


Figure 94 Farmana Terracotta animal figurine, from the excavation (1:2)



Figure 95 Farmana Terracotta whistle, from the excavation (*ca.* 1:1)

smooth surface.

#### TERRACOTTA ANIMAL FIGURINE

The only animal figurine represented in terracotta art from the site of Farmana is the humped bull (Figures 92-94). They all are hand-modelled from very fine clay, have smooth surface but without slip and burnt red. All the bulls are in a naturalistic form, many of which have a prominent horns, a hump and a tail. Most of the parts are made by pinching.

There is one unique bull figurine in the collection, it is treated with red slip and the body is painted in black colour (Figure 93). The upper part has a net pattern, whereas the lower portion is decorated with circular dots.

#### TERRACOTTA WHISTLE

A couple of terracotta whistles have been found from excavations. They both have narrow, stem like base which is truncated (Figure 95). These are also

handmade and shaped roughly like a boat. One of the ends is projecting whereas the other end is cut flat, having a blind hole for blowing.

### STONE OBJECTS

In stone objects, mostly domestic stone objects, such as saddle querns, pestles, pounders and long parallel blades are found.

#### STONE BALL

There are a few specimens of stone balls of small to medium size (Figure 97). Most of the objects, except the blades, are made of sandstone, which is available in the Tosham Hills in the Aravali Ranges, which is roughly 55 km away from Farmana.

#### STONE BLADE

All the stone blades found at Farmana are made of fine chert (Figure 96), most probably brought



Figure 96 Farmana Chert blade, from the excavation (ca. 1:1)



Figure 97 Farmana Stone ball and pestle, from the excavation (ca. 1:1)



Figure 98 Farmana Semi-precious stone bead, from the excavation (*ca.* 2:1)



Figure 99 Farmana Semi-precious stone bead, from the excavation (*ca.* 2:1)



**Figure 100** Intricately decorated etched carnelian bead from Ur in Mesopotamia (after Lal 1997: Pl.LIIB)

from the Rohri Hills in Sindh of Pakistan. So far, no evidence of the manufacture of these blades at Farmana has been found. It is quite likely that the people at Farmana traded finished products from some site near the source area in Sindh.

### STONE BEADS

Beads of semi-precious stones like carnelian, agate, jasper, chalcedony, steatite, etc., constitute another important category of stone objects at Farmana (Figure 98). Although most of them are barrel-shaped beads of small to medium size, there are a few long and short barrel-shaped in the collection. It is quite clear that part of them were manufactured at Farmana, as attested by the discovery of some unfinished specimens and nodules at the site (Figure 101).

The presence of a large number of etched carnelian (Figure 99) and steatite/bone beads (Figure 102) in the repertoire is noteworthy. Among the etched carnelian beads is included an unique specimen. This is a short, flat cylindrical truncated carnelian bead decorated with diamond pattern and circles in squares (Figure 99). It is exactly identical to the one found at the Mesopotamian site of Ur (Figure 100).

The most common shape in etched beads of carnelian and steatite materials is flat tabular and they are usually decorated with concentric circles, pattern resembling the symbol “∞” and with additional circle to “∞” (Figure 99).

Besides, there is an ample collection of disc and micro-beads of steatite. They are found in both the habitation as well as burial sites at Farmana.

### FAIENCE AND PASTE OBJECTS

A few tubular and segmented beads and bangle fragments of faience and paste have been found in the excavation (Figures 103 and 104). They are very much similar to those found in the other Harappan sites. It is quite likely that these artefacts were brought from Mitathal which has been thought to be a major production centre of the faience objects (Suraj Bhan 1975; Shinde *et al.* 2008).

### BONE TOOLS

Slender and well-made bone tools with high polishing have been found from this excavation (Figure 105). Most of them are made on long bones, first by chipping into desired shapes and then grinding on rough stone. They may have been heated in slight temperature in order to strengthen them. It seems possible that they were used for making objects for sewing or other delicate work. Most of the bone tools found at the site were found inside the structures in the Mature Harappan levels.

### SEALS AND SEALING

Two square steatite seals and two terracotta objects with an seal impression have been found at Farmana.

One of the complete seals found last year has a deeply engraved water buffalo facing to right with a goggled eye, prominent horns and low dewlap marked by incised lines (Figure 107). In front of the buffalo is an arrowhead-like object and two letters above the hind portion of the buffalo. Of the two letters, one is a fish and the other double vertical stroke. This



Figure 101 Farmana Raw material and roughout of semi-precious stone bead, from the excavation (*ca.* 1:1)



Figure 102 Farmana Etched steatite and bone bead, from the excavation (*ca.* 2:1)



Figure 103 Farmana Faience and paste bead, from the excavation (ca. 2:1)



Figure 104 Farmana Faience and paste bead and bangle, from the excavation (ca. 2:1)



Figure 105 Farmana Bone tool, from the excavation (*ca.* 1:1)

seal has a broad and not so well-finished knob on the other side.

The other seal found this year in one of the structures (ST. NO. 3H) is quite large, but unfortunately half broken (Figure 106). There is a depiction of a humped bull facing to left. The muscular zebu is shown with very prominent horns, a hump and dewlap. Above the back of the bull are possibly Harappan letters shown in geometric form. The loop on the back is double and broad.

Of the two terracotta objects with a seal impression, one found last year is a part of the clay sealing having an impression of an unicorn facing to left (Figure 108). The thick horn is slightly plain and has a goggle eye. Above the back of the unicorn are two Harappan letters in the form of the Roman letter “U”.

The other sealing is in the form of a terracotta tablet, having an impression of an unicorn which faces to left (Figure 109). The upper part, which generally bears letters, is missing. The unicorn impressed on this is

slender and in proportion. The reverse side is smooth and has a perforation along its length. It is quite likely that this was used as an amulet.

## COPPER ARTEFACTS

A large number of copper artefacts have been found. In relation to the copper objects, there is one noteworthy fact. Towards the southwestern part of the site, the land owner of that part of the site came across a huge vertical furnace of clay, the sides of which were burnt brick red. From the account given by the owner, there was a thick layer of slag at the base of the furnace. This can be taken to be the evidence of copper smelting activity at the site.

Furthermore the farmer came across a small cache of 22 solid bangles close to this smelting area, while ploughing the field for agricultural activities. These solid bangles on an average are medium in size and made by cold hammering technique (Figures 113 and

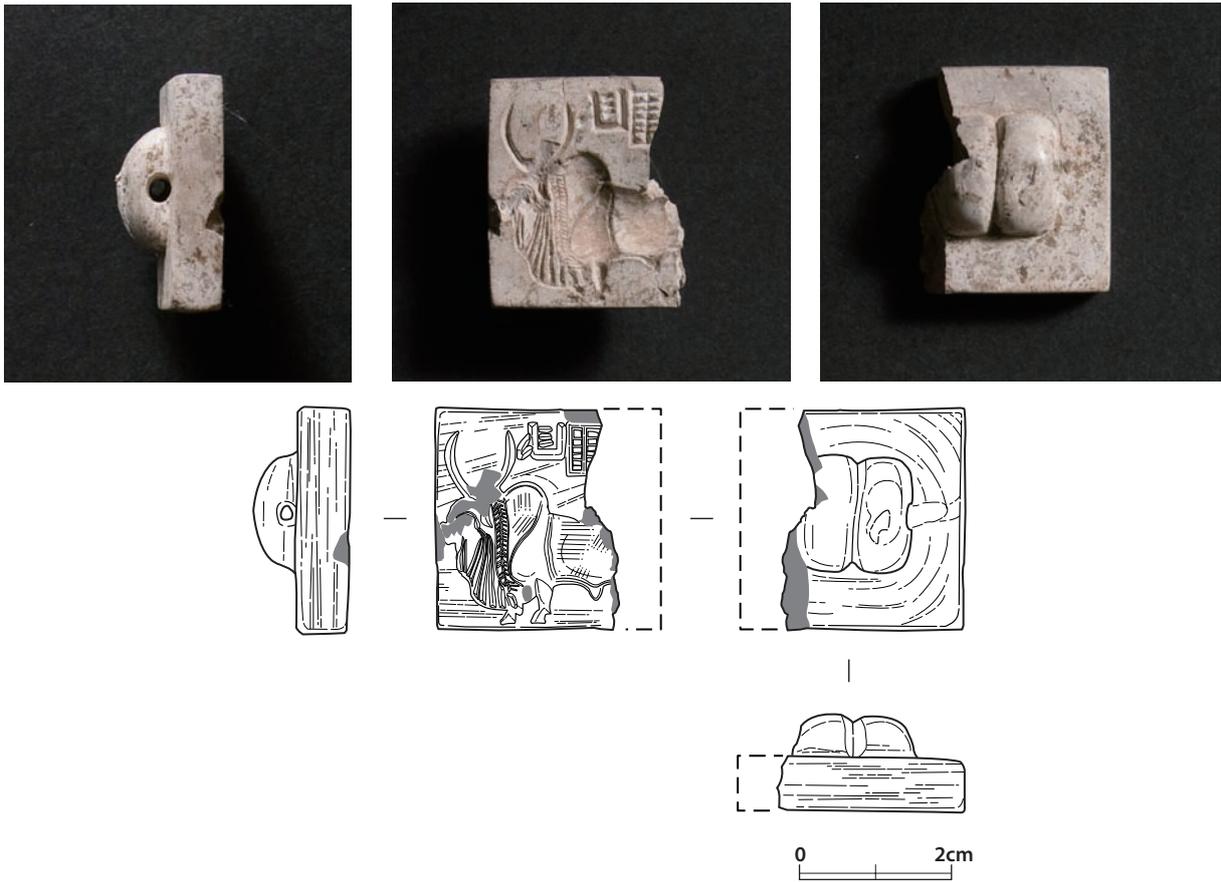


Figure 106 Farmana Steatite seal, from the excavation (photo: *ca.* 1:1; drawing: 1:1)

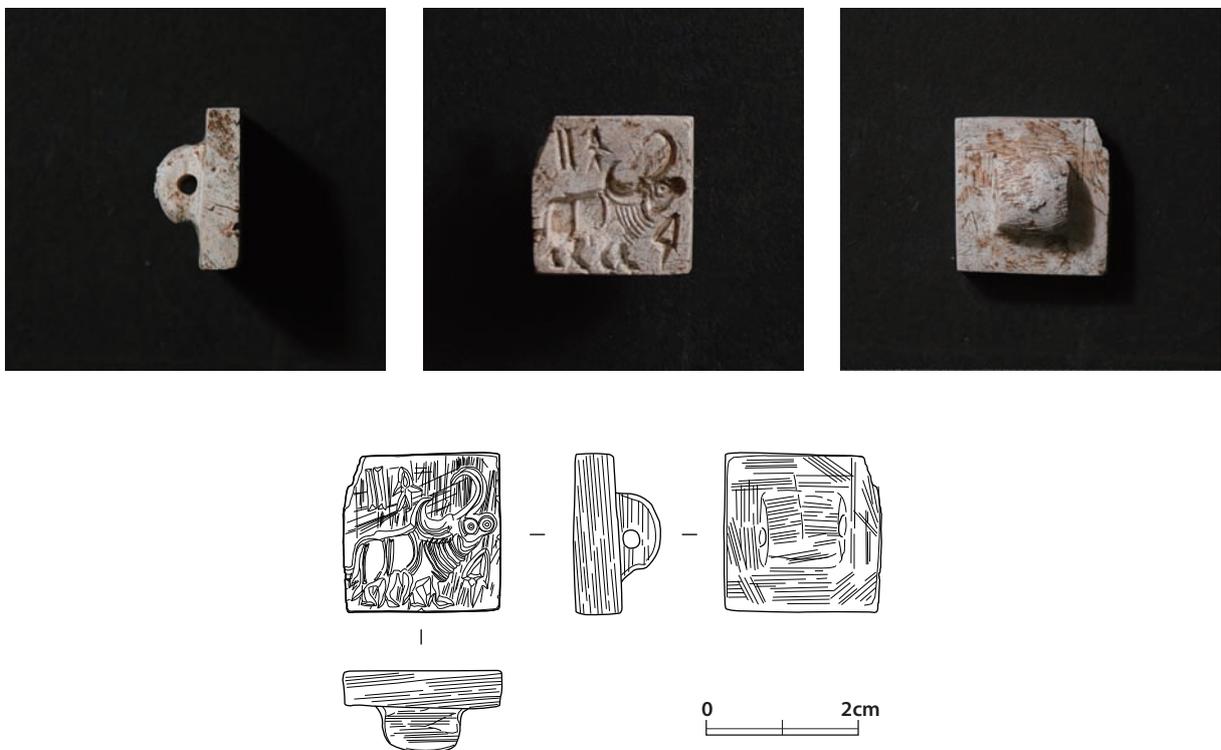


Figure 107 Farmana Steatite seal, from the excavation (photo: *ca.* 1:1; drawing: 1:1)

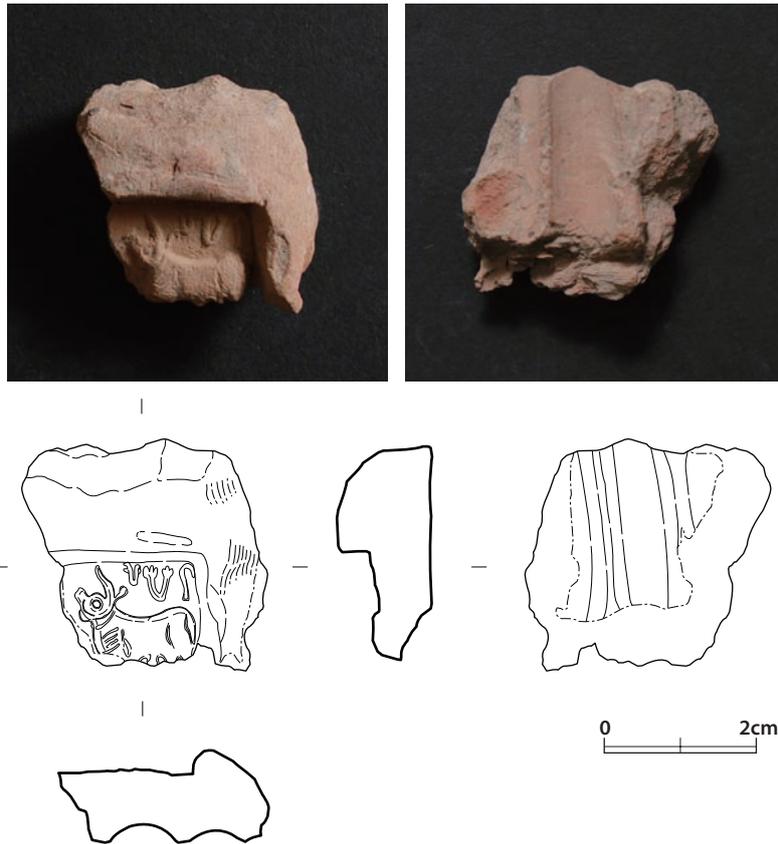


Figure 108 Farmana Clay sealing, from the excavation (photo: *ca.* 1:1; drawing 1:1)

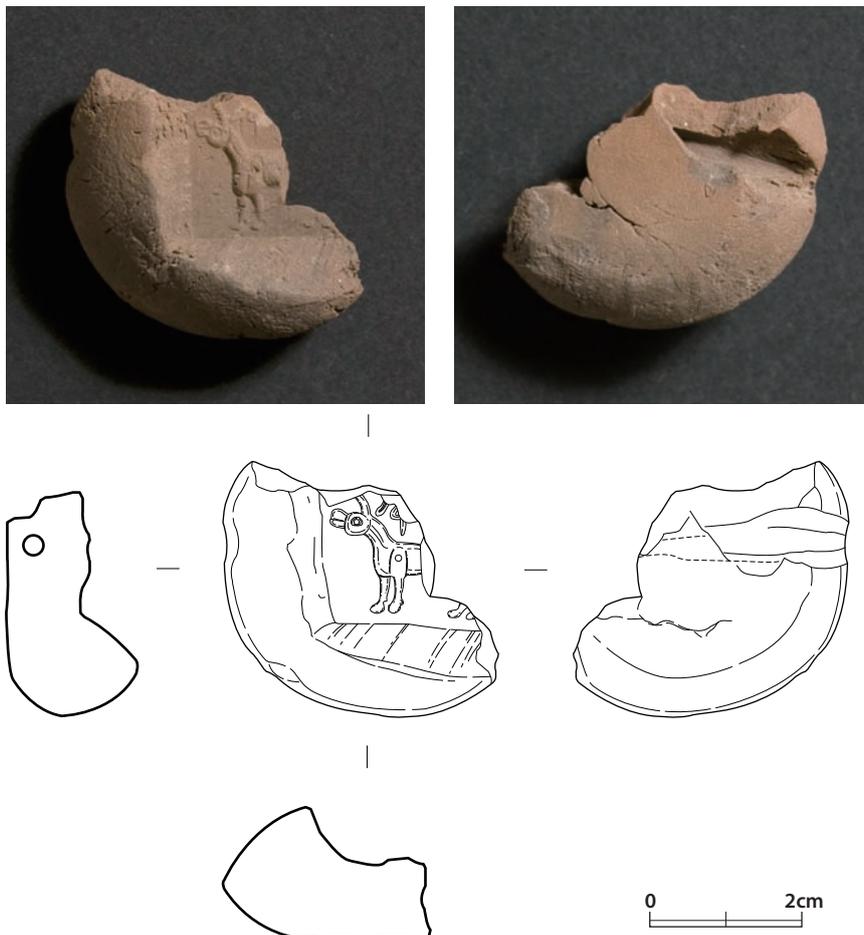


Figure 109 Farmana Clay tablet with a seal impression, from the excavation (photo: *ca.* 1:1; drawing: 1:1)

114).

The repertoire of copper artefacts includes bangles, chisels (Figure 111), rods (Figure 111), V-shaped arrowheads (Figure 112) and a complete dagger (Figure 110).

The arrowhead found here closely resembles the ones from the site of Ganeshwar in the vicinity of Khetri belt.

The dagger resembling a pipal leaf, is 25.95 cm long and has a long haft (8.7 cm), which is slightly broad at the end. Considering clear similarity among the copper arrowheads from Farmana and Ganeshwar, both contemporary in age, it may not be far fetched to surmise that they both were directly connected from the point of view of trade and economy.

All the copper objects found in Farmana have been made by simple cold hammering technique. In the absence of chemical analysis of the copper artefacts, it is not possible to discuss about the presence of bronze at Farmana.

## SHELL OBJECTS

Relatively small number of shell artefacts is found in Farmana, mostly consisting of bangles and beads. The presence of waste flakes of shell and a few columella in the excavation at Farmana, it is quite likely that the raw material was imported from Saurashtra and the objects were manufactured locally. The beads are mostly small truncated barrel-shaped. The bangles

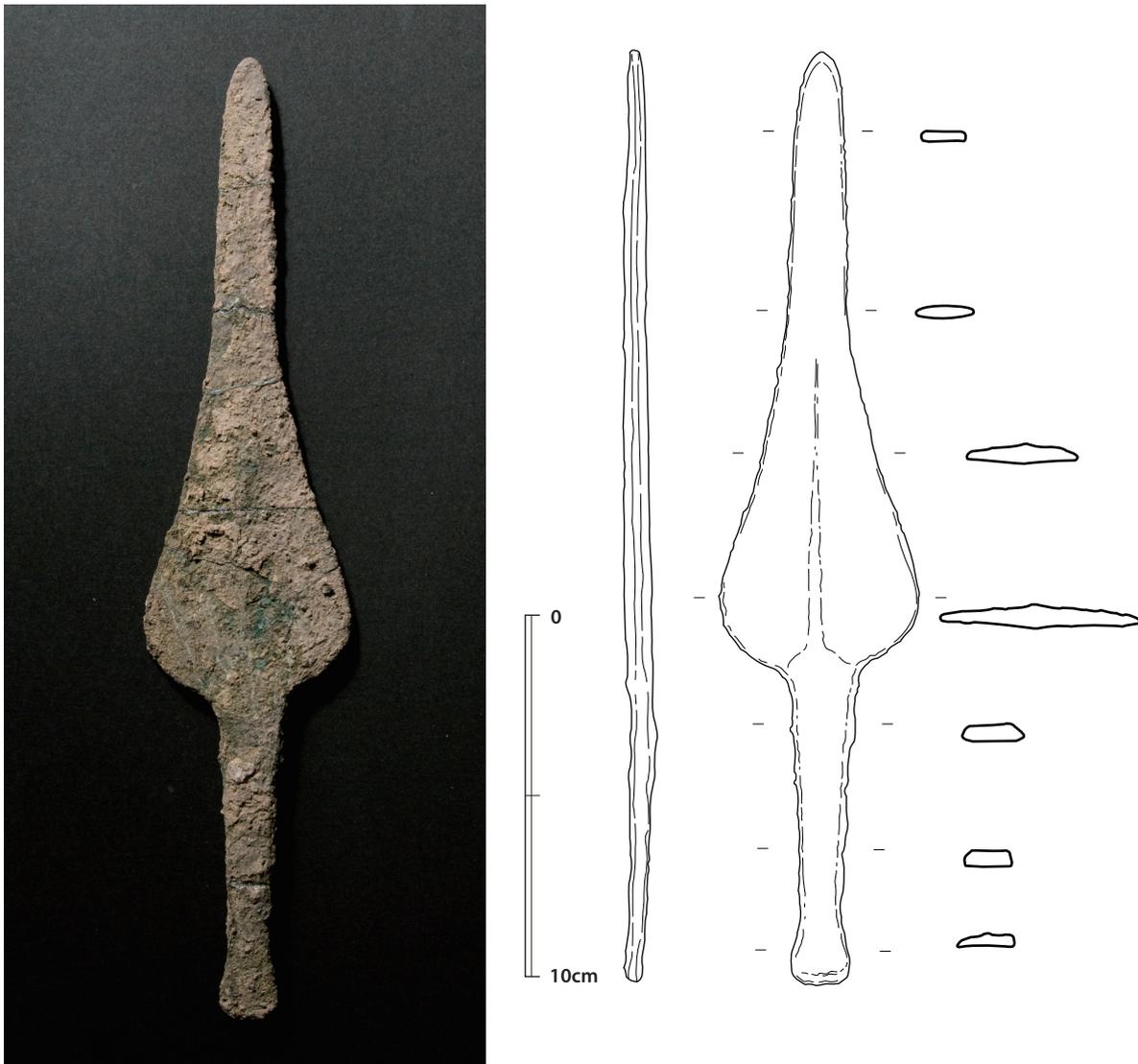


Figure 110 Farmana Copper object, from the excavation (photo: ca. 1:2; drawing: 1:2)



Figure 111 Farmana Copper object, from the excavation (*ca.* 1:1)



Figure 112 Farmana Copper object, from the excavation (*ca.* 1:1)



Figure 113 Farmana Copper bangles from a cache, from cultivation (ca. 1:2)



Figure 114 Farmana Copper bangles from a cache, from cultivation (*ca.* 1:2)

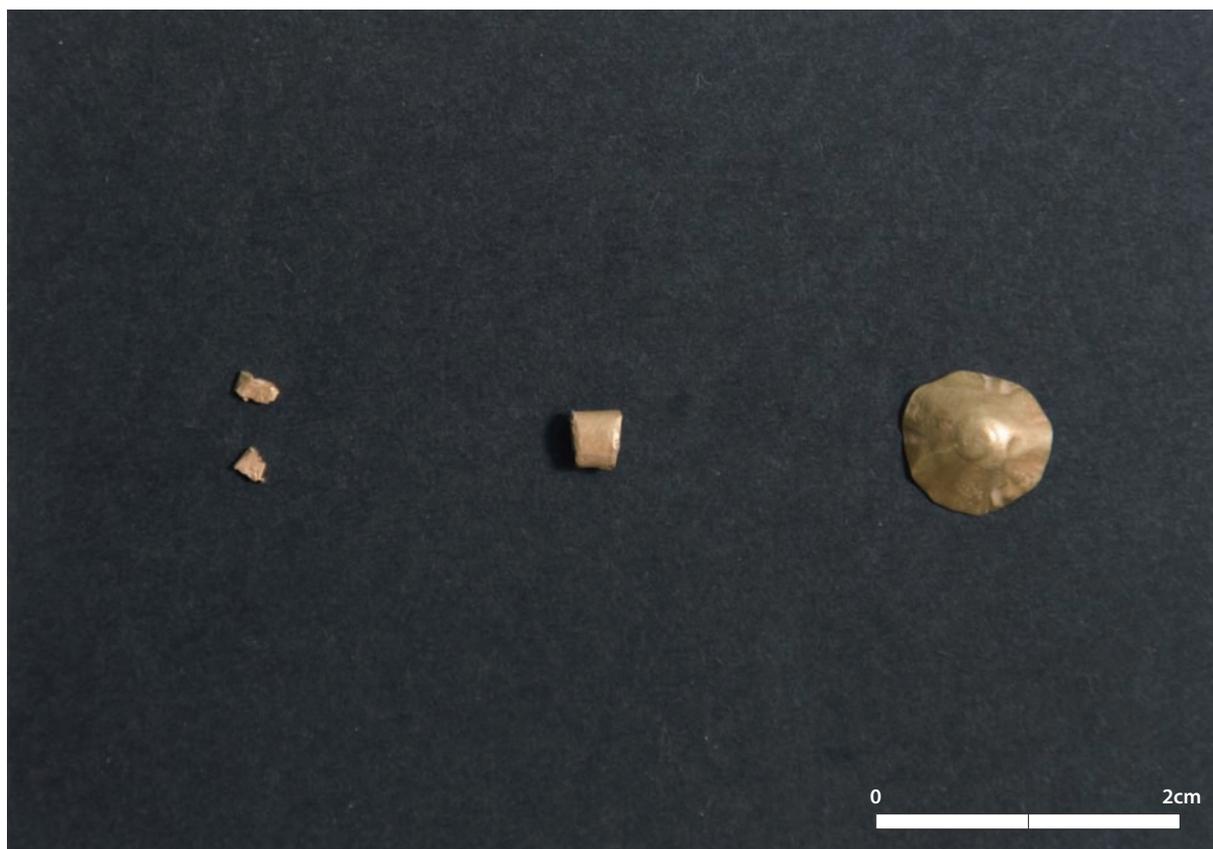


Figure 115 Farmana Gold bead, from the excavation (ca. 2:1)

are semi-circular in section and plain. It should be mentioned that shell bangles were found from one of the burials (BURIAL NO. 3) at the cemetery site as well as from the habitation site.

### GOLD BEAD

One gold bead, small cup-shaped with a tiny loop inside, has been found at Farmana (Figure 115). This was made of gold foil. Besides, there are a few fragments of gold ornaments.

### PRELIMINARY OBSERVATIONS

A large number of objects found at the site of Farmana testifies its place in the economic organization of the

Harappan Civilization. The site may have played an important role in the regional as well as international trade, which is evident in the presence of non-local raw materials such as semi-precious stones, copper, Rohri chert, gold and shell, seals and sealing and etched carnelian bead similar to one found at Ur in Mesopotamia. The Harappans developed very efficient and extensive network and trade mechanism by which most of the raw materials were acquired and the finished goods were distributed. So far no direct evidence of the manufacture has been found in the excavation, but considering its size it is quite likely that most of the objects were locally made. The future excavation may throw welcome light on this aspect.

## CHAPTER X

### CONCLUDING REMARKS

The Harappans favoured the Ghaggar-Hakra Basin the most as is evident from the presence of high density of the Harappan settlements there. The region, particularly on the Indian side of the Ghaggar Basin is yet to be systematically surveyed and the work on settlement patterns and systems is still in its infancy.

Numerous sites have been reported by the earlier workers, which cannot be revisited and studied now. This is simply because either majority of the co-ordinates mentioned by the earlier researchers are wrong, or most of the sites have been completely razed either in the process of converting them into agricultural fields or due to various developmental projects initiated by either the state or central governments.

We are yet to understand numerous factors that have governed the locations of the Harappan settlements in this region and also relationship and interactions between small and big settlements. The Early and Mature Harappans did not show a keen interest in establishing their settlements directly on the banks of the main Ghaggar River as it is prone to frequent floods and constant erosion of the fertile soil, particularly along the river banks. They found tributaries, particularly the Chautang, more safe and fertile enough to establish large-scale settlements. Besides, this region is not very far from some of the important sources of raw materials. For example the Khetri Copper Belt, the most important source of copper in India is hardly 300 km away from here.

Among the many factors responsible for the development of the Harappan Civilization, congenial climate and surplus production of food grains are considered to be the most significant. There is hardly

any significant data on the climate during the fourth-third millennia BCE and therefore its role played in the development of the Harappan Civilization is not yet clear.

The Ghaggar Basin was very potent for the surplus production of food grains as it has very thick cover of fertile alluvial soils and the rivers are perennial as they are glacier fed due to their rise from the Siwalik Hills. Even today, this region is considered to be part of an “Agricultural Bowl” of India.

A large number of Harappan sites located in the proximity of arable land can be interpreted as agricultural settlements. They are relatively large in size and have considerable thick deposit. However, sites like Rakhigarhi and Farmana, very extensive and under occupation for hundreds of years may have played an important role in the socio-economic organizations of the Harappans.

The site of Rakhigarhi, by virtue of its location, which is almost in the centre of the region and having vast catchment around it, grew into most probably the largest “Regional Centre” of the Ghaggar Basin. It may have controlled administration and overall economy of the region. The site of Farmana may have acquired importance and grown into a town because of its proximity to the site of Rakhigarhi, which is roughly 40 km away and also due to very congenial ecological conditions.

The site of Farmana was selected for a large-scale excavation mainly because it has both the Early and Mature Harappan phases and thus an ideal candidate where one can undertake study of cultural processes. Besides, for last many decades the farmers who own the site have been modifying landscape of the site mainly for agricultural activities. As a result, a

prominent habitation mound has been reduced to almost a flat ground now. The excavation planned at the site aims to salvage archaeological record before it is completely destroyed. The destruction of the upper deposit of the site turned out to be a boon in disguise for the present team excavating the site as it has exposed the Mature Harappan structures very close to the surface of the mound. It is because of this condition that it was possible to excavate such a large area and immense structural and artefactual data in one season (2007-08). However, the excavation this year remained confined mostly to the Mature Harappan level.

This excavation was planned to understand gradual evolution of the Mature Harappan phase and identify regional variations of the Harappan culture in the Ghaggar Basin. For the first time this excavation has produced evidence that is enabling understanding of the origin and the factors causing regional variations.

So far there is no evidence regarding the origins of the pre-/Early Harappan cultures in this region. The regional cultures like Regional Hakra Culture Tradition, Sothi and Siswal cultures may have evolved in the Ghaggar Basin as a result of interactions with the early Neolithic cultures, either from the Balochistan region or Kashmir. This is one of the research topics for near future. However, this excavation has begun to throw light on the evolution of the regional variation of the Mature Harappan phase in the Ghaggar Basin. As is clear at Farmana, the early culture (Period I) was gradually developing into the Mature Harappan phase (Period II). At around 2500 BCE, the typical Harappan elements began to flow into this region from the sites in the western Punjab like Harappa and even Sindh.

The ceramic assemblage of the Mature Harappan phase constitutes major elements of the Early Harappan phase at the site. The similarity is found in their shapes, surface treatment, raw material, motifs on pottery and overall technology. The Mature Harappan ceramic assemblage found in this

region differs drastically from that found at the sites of Harappa and Mohenjo daro. This is identified as one of the characteristic regional variations of the Harappan Civilization in the Ghaggar Basin.

The early culture began a modest life-style in circular or oblong dwelling pits or huts. As is evident, gradually over a period, they began to switch over to rectangular mud or mud brick structures and finally culminating in building a well-planned grid settlement in the Mature Harappan period. This gradual journey is very important in understanding the cultural processes and the development of the regional Harappan culture in the Ghaggar Basin.

Excavations carried out at Farmana have thrown immense light on the town planning and the burial customs of the Mature Harappans in this site. The orientation of the town in the northwest-southeast direction closely resembles the one at Kalibangan, whereas overall pattern of the streets and structures are close to the planning at the site of Harappa. Since only the foundations have survived, it is not possible to visualize the nature of walls and superstructure. The walls above could be either of burnt bricks, which may have been completely robbed by the present villagers, or mud bricks.

The traces of settlements found at Farmana are in general agreement with the usual grid town planning associated with the Harappan Civilization. However, in spite of exposing such a large area, no evidence of the drainage system could be encountered so far. The only evidence found in this respect is that of bathrooms in a couple of rooms. Since there is a large-scale disturbance in the upper levels at the site, such evidence may have been preserved in the lower levels.

Of the three structure complexes excavated at Farmana, STRUCTURE COMPLEX NO. 3 appears to be the biggest and may reflect the higher social and economic status of the family occupying it. However, as none of the structure complexes has been excavated fully, it is premature to make any judgement regarding the socio-economic organizations of the Harappans

at Farmana. On the basis of the presence of living, storage and kitchen areas within the complexes a number of households have been identified in each structure complexes.

Different households occupying one complex may form a part of a large extended family. This type of family structure exists even today in major part of the Haryana State. The evidence of the structure complexes at Farmana revealed the presence of a closely-knit society. Considering the high quality of the structures and rich material equipment, this was one of the elite areas of the Harappans at Farmana. This is also the highest portion of the mound and as per the Harappan tradition the elite class intentionally selected such spots within the habitation to distinguish themselves from the common people and project their higher status in the society. It would therefore be interesting to check the type of structural evidence found in the middle and lower levels of the settlement with a point of view of studying socio-economic aspects.

The site of Farmana presents the possibility of exposure of large number of structures and features and therefore there is an ample scope for reconstruction of holistic life-style of the Harappans.

It is interesting to note, that the Harappans at Farmana were very fond of geometric structures and features. Majority of the pits including storage, firing and burials found at Farmana are rectangular in shape. These pits are perfectly rectangular with perfectly vertical sides and flat bottom.

All the rectangular fire-pits found in the structures are certainly used as domestic hearths and they are usually found in one of the corners or along the inner margin of the wall of structures. Besides, very often a water storage jar and a small rectangular storage pit are found close to the fire-pits. Some of the fire-pits are close on all four sides and considerably large in size. In order to accommodate smaller pot on these fire-pits, they may have used bricks for support of cooking vessels, the evidence of which is found in a

few cases. They do not appear to be associated with religious beliefs of the people as their context includes fragments of cooking and storage pots and splinters of charred animal bones would indicate.

On the basis of the presence of large number of artefacts at Farmana, it appears that Farmana was one of the flourishing Harappan centres. It has a strong agricultural base as its catchment is covered with very fertile alluvial soil and has ample source of fine clay for manufacturing pottery and bricks.

The site may have been a major regional centre for the manufacture of terracotta objects, including pottery. The lapidary and copper working may have been the other industries at Farmana. It may have acquired semi-precious stones from Gujarat, gold from Karnataka or some other region in the north and copper from the Khetri region of Rajasthan. The site appears to have flourished because of the major agricultural and industrial activities here.

The site of Farmana is one of the few Harappan sites in the subcontinent that has Mature Harappan cemetery located in its vicinity. There are two more cemeteries, one at Bedwa and the other at Puthi Seman, located in the vicinity of 5 km. Cemeteries at Bedwa and Putti Semen belong to the Late Harappan phase. As the entire deposit of the Late Harappan at Farmana has been razed, there is no way to connect them to the site of Farmana. Three types of burials are found at Farmana, e.g. primary, secondary and symbolic, and the burials are either in north-south or northwest-southeast direction. Such variation in the customs clearly suggests the presence of different population groups within Farmana. On the basis of quantity and quality of the burial goods, it is possible to surmise about the social and economic status of an individual. The burials that have numerous pots and jewellery may indicate higher social or economic status in the society.

Over all, the excavation at Farmana has been proving very productive evidence as it is throwing light and producing information for some of the

important problems associated with the Harappan Civilization. The analysis of faunal, floral and anthropological material may throw additional light on various aspects of the Harappans.

A preliminary study of the faunal remains was carried out by Dr. P.P. Joglekar and Miss S. Sharada in the field while the excavation was in progress, and also in the Archaeozoological Laboratory of the Department of Archaeology, Deccan College, Pune. For a preliminary study, two bone packets from each of the 51 trenches excavated were analysed at the site itself, while a few fragments were studied in the laboratory for confirming the tentative identification made at the site.

The study of the faunal samples revealed the presence of several animal taxa. Out of the 30 species in the collection, eight wild mammals (wild pig, gazelle, antelope, chital, rat, Indian Hare, four-

horned antelope and nilgai) and one reptile (turtle) were found. The six domesticated species include cattle, buffalo, sheep, goat, pig and dog. Molluscs like lamellidens, *pila globosa* and some fishes which could not be identified at this stage were also found at Farmana. Among the many birds bones recovered, only one that is *Busulous ibis* could be identified.

Although no laboratory analysis of the grain and plan remains are available at this stage, wheat, barley and rice grains were identified during sampling at the site. Thus it is clear that the subsistence of the people of Farmana was based on agriculture but supplemented with animal diet.

Further analysis and more work at the site will be able to generate sufficient data to tackle with some of the research problems identified.

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