EXCAVATIONS AT
ADAM
(1988-1992)
A CITY OF ASIKA JANAPADA

Volume-I

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Dr. AMARENDRA NATH

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1. Front and rear view of terracotta mother goddess

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Archaeological exploration and excavation bring to light material evidence which helps us in understanding our past culture and history. The present Memoir, *Excavation at Adam (1988-1992) A City of Asika Janapada*, being published by the Archaeological Survey of India, fully illustrates this view-point.

The excavations at Adam, a site located in Nagpur District of Maharashtra, were carried out for four field seasons, from 1988 to 1992, by Dr. Amarendra Nath and his team from Excavation Branch I of the Survey. The site has brought to light a cultural sequence from the Mesolithic times, through various stages of pastoral-agricultural phases and advent of metal, right up to urbanization when the Asika Janapada came into being. The C-14 dates show that the beginning of farming in the region goes back to the first quarter of the second millennium BCE.

The strategic location of the site on the trans-Vindhyan trade route contributed substantially to its becoming one of the main trading centres. Over here were manufactured and marketed a variety of commodities. Equally noteworthy is the evidence of coins and seals which went a long way in augmenting trade and putting Adam on par with many other contemporary cities. Dr. Nath has brought out all these points very clearly and I have great pleasure in congratulating him on his achievement.
Adam, in District Nagpur, Maharashtra is another ancient settlement located in the Wardha-Wainganga Valley which was enclosed by a rampart. The site was subjected to excavation by a team of the Excavation Branch, Nagpur headed by Dr. Amarendra Nath, the then Superintending Archaeologist of the Branch. The excavations have brought to light a continuous sequence of cultures beginning from the makeshift type of Mesolithic occupation to the well organized settlements of the Satavahanas. The site is associated with the Asika Janpada on the basis of inscribed terracotta sealing bearing this legend.

Outcome of Adam excavations, carried out by Dr. Amarendra Nath, has been of particular interest for me. Once, while turning the pages of 'Indian Archaeology 1988-89- A Review', some illustrations of painted black-and-red ware potsherds revealed from Adam excavations immediately drew my attention. These specimens appeared closely comparable with those found during our excavations at Raja Nala-ka-tila in district Sonbhadra, Uttar Pradesh, where such potsherds were found to be in association of iron artifacts dated to circa 1200-1300 BC on the basis of radiocarbon determinations provided by BSIP and PRL for the charcoal samples collected from the same deposits. Since these early dates for iron were about 500 years earlier than 900-800 BC (then supposed lower antiquity of iron for Ganga Valley and adjoining areas), I was reviewing the status of other comparable evidence. Painted potsherds from Adam provided very important clue in this regard. Further enquiries from the excavator revealed that even at Adam, such potsherds are associated with iron artifacts and radiocarbon dates for their cultural deposit going back to 1200-1300 BC. With the permission of the excavator, I referred these dates (probably for the first time) in my articles dealing with early antiquity of iron in India, during 2002-2003. At that point of time, I never imagined that one day I may get an opportunity to write foreword of the Adam Excavation Report. Obviously it gives me great pleasure doing so.
I am sure, that the present Memoir by Dr. Nath in two volumes would be found useful and interesting as its contents are elaborate and discussed at length with suitable references.

I appreciate the endeavour of Dr. Nath for writing this well-informed report which could be published with the combined efforts of Dr. D.N. Dimri (Director), Abinash Mohanty (Dy. Superintending Archaeologist) and Hoshiar Singh (Production Officer) in Publication Section of the Survey.

New Delhi
07-12-2015

(Rakesh Tewari)
PREFACE

After Pauni, under the shared ecological zone of the Wardha-Wainganga valley lies another settlement at Adam enclosed by a rampart. The site, protected by the Maharashtra State Department of Archaeology, was subjected to excavations during 1988-1992 for four field seasons. The present memoir embodies the results of excavations with certain observations for the indulgence of scholars in the field. It is divided into two volumes. Volume I consists of writeups on introduction, physical features, cultural sequence, chronology, the cuttings, structural remains, burials, stone tools, pottery, beads, pendants, bullae and terracotta (chapter I to XI) while volume II ivory, bone, shell, metal, glass, stone objects, seals, sealings, signet, numismatic data, technical reports and conclusion (chapter XII to XIX).

Vestiges of data unfolded at the site have completely transformed the complexion of the archaeological and historical perspective of the Central Deccan. The site has exposed a sequence of culture emerging from the Mesolithic era of the terminal Pleistocene followed by occupations of the Chalcolithic, the Iron and the early historical periods. The calibrated 14C dates place the early farmers of the Wardha-Wainganga valley to circa 1800 BCE and the advent of iron technology to circa 1400 BCE. Such a phenomenal chronological data of absolute nature has never been arrived at from this region.

Also noticeable is the construction of a rampart considered to be a monumental public architecture raised with the introduction of iron technology in circa 1400 BCE. It was built over the pre-defence layers of Chalcolithic occupation. The height of the rampart was raised in the subsequent periods of cultural and economic growth and advancement. Within the rampart arterial type of settlement pattern is noticed. Careful documentation of structures made it possible to determine their nature and function.

Equally noteworthy are the plethora of numismatic and sphragistic data of great archaeological and historical consequences. These data have helped in ascertaining the chronology of archaeological strata of the pre-Satavahana and Satavahana horizon, besides discerning a type of the punch-marked coins of local genre. Among the finds of seals and sealings, issues of toponymy and royal nature have been discussed at length.

A variety of finds denoting cross country interaction with marts like Taxila, Kausambi, Vidisha and Arikamedu, explain the role of Adam in the trans-Vindhyan trade network which led to brisk trading activity. Such a prodigious growth of the site could be possible due to natural setting and exploitation of resources under the able leadership of Vindhyashakti, a feudatory of the later Satavahana family. He was a prodigy who after the fall of the Satavahanas became the progenitor of the Vakataka dynasty.
Besides fulfilling the objectives set for the excavations, the results have opened up new vistas of research for future. The memoir, in the ultimate analysis, contains a variety of data which would crave indulgence of students and scholars in the field. The views expressed in earlier publications pertaining to the findings at the site may be, in certain cases, set aside in the light of fresh observations made in this report.

28\textsuperscript{th} June 2015, \hspace{1cm} Dr. AMARENDRA NATH
ACKNOWLEDGEMENTS

The excavations at Adam referred to in this memoir were carried out by the Excavation Branch-I of the Archaeological Survey of India, Nagpur during 1988-89 to 1991-92 under my direction. I'm deeply obliged to all those who participated in the excavations or otherwise helped in the preparation of this report in various ways.

I am greatly indebted to Sarvashri Jagat Pati Joshi and Munish Chandra Joshi, former Director Generals, Archaeological Survey of India for giving me an opportunity to excavate the site and also for the encouragement and guidance. I am also grateful to Drs. I.K. Sarma, W.H. Siddiqui, C. Margabandhu, K.N. Dikshit, M.I. Quddusi, B.M. Pande, former Directors of the Survey for their advice pertaining to the findings and excavations.

A mention may be made of my departmental colleagues, who among others participated in the excavations namely Drs. S.N. Raghunath, K. Pulla Rao, S. Prathapchandran, Sarvashri N.C. Prakash, Ch. Babjirao, Mohinder Singh, S.V. Sutaone, P.M. Bhope, H.J. Barapatre, D.K. Kasbi, D.S. Sambharkar, R.G. Nangulwar, S.R. Gulrandhe, R.K. Roy, A.U. Ganar, Sultan Singh, Sahid Akhtar, N.R. Sahare, M.U. Qureshi, Manohar Kambe, Sunil Bernad, S.A. Raut and Smt. Indira Tiwari. I must appreciate the assistance rendered by Dr. S. Prathapchandran in registering the antiquities, chemical cleaning of metal objects and in preparing write-ups on beads, microliths, shell and bone objects. While, Shri N.C. Prakash associated in write up on stone objects and Ch. Babjirao on pottery and iron objects. Special thanks are due to Shri H.J. Barapatre and D.K. Kasbi for preparing the contour plan of Adam and entire drawing of the sites and antiquities. Subsequently, I received the services of Sarvashri Bhaskar, Vikram and Pavitra of the Nagpur Branch. Similarly, Shri S.R. Gulrandhe and S.M. Khairkar took the responsibility of photo documentation of the excavated site and antiquities. Mr. John N. David, Sr. Library and Information Assistant deserves my sincere thanks for the valuable help he has provided in locating references at the time of writing the report.

I am thankful to Shri Bhaskar Ghosh, IAS, the then Secretary, Culture who during the course of excavations, visited the site and encouraged us in our endeavour.

Prof. Ajay Mitra Shastri, Head of the Department of Ancient Indian History, Culture and Archaeology, Nagpur University encouraged me to pursue research on the findings of early Indian coins, seals and sealings. Dr. K.V. Ramesh, Director Epigraphy and Dr. S.P. Tewari, Superintending Epigraphist (Sanskrit) also supported me in this pursuit.

I am indebted to the faculties of the Deccan College, Post-Graduate and Research Institute, Pune for scientific analysis of the samples in their laboratory. I may record the contribution of each one of them namely Drs. P.K. Thomas, P.P. Joglekar, Arti Deshpande-Mukherjee for faunal study, Dr. M.D. Kajale for Palaeobotanical documentation, Dr. B.C. Deotare for soil analysis and Dr. (Mrs.) Anupama Kshirasagar for fluorine analysis of bone samples. Among the scientists of the Physical Research Laboratory, Ahmedabad, I record my sincere thanks to Prof. D.P. Agrawal, Dr. Sheela Kusumgar for providing 14C dates and their calibrations from the University of Washington Quaternary Isotope Laboratory.

I am equally beholden to my guru Prof. B.P. Sinha and Prof. R.S. Sharma for inculcating the discipline of field research. I recall the visit of Prof. Sharma to the site where he discussed the socio-economic factors responsible for the early Historic settlement pattern.

Appreciation is also due to Dr. S.B. Ota, the then Superintending Archaeologist, Prehistory Branch, Nagpur, Dr. S.K. Mittra, Dr. L.S. Rao and Subhas Khamari, the then
Superintending Archaeologists, Excavation Branch-I, Nagpur, and the present incumbent Dr. Nandani B Sahu and Dr. Prabhash Sahu presently Reader at Nagpur University for rendering assistance in writing this report. Dr. V.N. Prabhakar, Superintending Archaeologist, Aurangabad Circle deserves thanks for deputing Dr. Tejas Garge who helped in retrieving the manuscript of this report from the press. Thereafter I received ungrudging services from Dr. Manoj Kumar Singh, Manjil Hazarika, Dr. Hari Om Sharan, Sarjun Prasad, Dr. Vinay Kumar Roy, Ms. Anjali Negi, Ms. Preeti Sandilya, Gayadeen and Shri Dinesh Chand Pandey. I am obliged to all of them.

Shri N.K.S. Sharma of the Excavation Branch-I, assisted in creating cohesive atmosphere both in the field and office. I owe to him for typing the entire manuscript with commendable accuracy.

I register the initiatives taken by Dr. Rakesh Tewari, Director General, Dr. B.R. Mani, Additional Director General (Retd.) and Dr. R.S. Fonat Joint Director General of the Survey in bringing out this report. Shri D. N. Dimri, Director (Publication), Dr. Madhulika Samanta, Superintending Archaeologist (Publication), Shri Hoshiar Singh (Production Officer), Dr. Sujit Nayan ASA (Publication), Shri Abinash Mohanty and his team earn my favour in publishing this memoir.

At the end, I would like to record my gratitude to my parents Shrimati Shanti Devi and Shri Nagendra Nath for their blessings and to my wife Mrs. Kumkum Nath for her untiring support. My sons Sankalp and Mantabya and their wives Binita and Deepa respectively deserve my special thanks. Similarly my grandchildren Aditya and Shivanshi for keeping me jovial and energized each day right through the preparation of this tome.

Dr. Amarendra Nath

Members of the excavation team at Adam during the visit of Shri Bhaskar Ghosh, IAS, Secretary, Culture

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<th>Description</th>
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<tbody>
<tr>
<td>ABORI</td>
<td>Annals of the Bhandarkar Oriental Research Institute</td>
</tr>
<tr>
<td>AI</td>
<td>Ancient India</td>
</tr>
<tr>
<td>ARASI</td>
<td>Annual Report Archaeological Survey of India</td>
</tr>
<tr>
<td>BDCRI</td>
<td>Bulletin of the Deccan College Post-Graduate and Research Institute</td>
</tr>
<tr>
<td>CII</td>
<td>Corpus Inscriptionum Indicarum</td>
</tr>
<tr>
<td>EI</td>
<td>Epigraphia Indica</td>
</tr>
<tr>
<td>EW</td>
<td>East and West</td>
</tr>
<tr>
<td>IAR</td>
<td>Indian Archaeological Review</td>
</tr>
<tr>
<td>IHQ</td>
<td>Indian Historical Quarterly</td>
</tr>
<tr>
<td>IIRNS</td>
<td>Indian Institute of Research in Numismatic Studies</td>
</tr>
<tr>
<td>IJHS</td>
<td>Indian Journal of History of Science</td>
</tr>
<tr>
<td>INC</td>
<td>The Indian Numismatic Chronicle</td>
</tr>
<tr>
<td>JAS</td>
<td>Journal of Asiatic Society</td>
</tr>
<tr>
<td>JBORS</td>
<td>Journal of Bihar and Orissa Research Society</td>
</tr>
<tr>
<td>JESHO</td>
<td>Journal of the Economic and Social History of the Orient</td>
</tr>
<tr>
<td>JESI</td>
<td>Journal of the Epigraphical Society of India</td>
</tr>
<tr>
<td>JIH</td>
<td>Journal of Indian History</td>
</tr>
<tr>
<td>JISOA</td>
<td>Journal of the Indian Society of Oriental Art</td>
</tr>
<tr>
<td>JNSI</td>
<td>Journal of the Numismatic Society of India</td>
</tr>
<tr>
<td>JUPHS</td>
<td>Journal of the U.P. Historical Society</td>
</tr>
<tr>
<td>MASI</td>
<td>Memoirs of the Archaeological Survey of India</td>
</tr>
<tr>
<td>ME</td>
<td>Man and Environment</td>
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<tr>
<td>ND</td>
<td>Numismatic Digest</td>
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<tr>
<td>NS</td>
<td>Numismatic Studies</td>
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<tr>
<td>RIAST</td>
<td>Rome and India: The Ancient Sea Trade</td>
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INTRODUCTION

Some six decades from now Sir Mortimer Wheeler had emphasized the need of systematic study of proto-historic and early Historical cultures of India with a view to bridge the 'black millennium' separating the Harappan civilization from the cultures of early Historical period. Since then, systematic excavations and sporadic explorations have fruitfully thrown light on the prehistoric and early Historical stratum of the subcontinent. The sequence observed at Brahmagiri in 1947, provided a framework for the succession of cultures and their chronology in the Deccan. The subsequent excavations in mid-Narmada and upper Godavari valley, in the early fifties linked the Harappan cultures of the western India with the post Harappan Chalcolithic cultures of the upper Deccan. In the western Deccan, the excavations at Daimabad on Pravara, have not only revealed a late Harappan occupation in the lower levels but also exposed in succession, the culmination of post Harappan Chalcolithic cultures of Malwa and Jorwe affiliation in succession around 800 BCE. In addition to Daimabad, extension of the Malwa and Jorwe cultures were largely studied at Inamgaon, situated in the drainage system of Bhima, which covered the settlement and the subsistence pattern of the early farming communities of the western Deccan (Fig. 1.1).

A. PROBLEMS AND PROSPECTS

As compared to the progress made in understanding the early farming communities of western Deccan, Vidarbh region of central Deccan could not gain much importance. Until recently, Vidarbh featured, largely, as a blank on the Chalcolithic map of India. However, sporadic explorations in the region brought to light a few loosely termed Chalcolithic sites viz. Marda in Warora taluk, Masalarith in Chandrapur taluk of Chandrapur district, Ashti and Thameswana in Gadchirauni district, all yielding dull slipped black painted red and painted black and red wares associated with microlithic tools. Since these native pottery types were already known from the excavated sites like Kaundinyapura and Paunar from the horizons not free from iron, their association with a copper using horizon remained a subject of debate. However, the excavations at Tuljapur Garhi in the Purna valley with Malwa and Jorwe ceramic traditions ultimately placed the region on the Chalcolithic map of India, but these pottery traditions did not traverse the divide of the Wardha-Wainganga. However, an overlap with local pottery tradition was noticed in a small scale excavation at Tharsa, taluk Ramtek, district Nagpur (Fig. 1.2).

The local ceramic tradition with an overlap was noticed in iron using context at a number of excavated sites of the Wardha-Wainganga valley (18° 42' – 21° 43' N and 77° 30' – 81° 03' E). During the period, the iron ore reserves of the valley became the main source of exploitation, besides its arable flood plains for agricultural produce.

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6. IAR 1959-60, p. 31.
7. IAR 1959-60, p. 31.
12. IAR 1989-90, pp. 66-68.
Excavations at Adam

Fig. 1.1: Archaeological sites mentioned in the report
These natural resources became the main source for the early farming communities to occupy the area and it was further exploited by the Iron using inhabitants. These Iron using people imbued rich Megalithic traditions of peninsular India through its southern corridors. Further, sustained fieldwork in the valley has also brought to light some fortified settlements coeval to those reported in the Gangetic plains, which largely come into existence during the formation of the second urbanization. Such settlements have been noticed in close proximity in the Krishna-Tungabhadra valley, besides the Wainganga valley. These urban centres played an important role in the hinterland as well as sea born trade activities.

The excavations at Adam (21° 00' N and 79° 27' E) during 1987-1992 have offered corroborative evidences in filling up the underlying archaeological gaps prevailing in the Wardha-Wainganga valley, as well as produced some fresh data of vital importance which would open up new vistas in reconstructing the history of the region. In nutshell, the site has revealed a continuous sequence of cultures starting with say Mesolithic times and continuing right up to the decline of the later Satavahana power.

B. ARCHAELOGICAL PERSPECTIVE

Being one of the earliest geological formations of the subcontinent, the archaeology of Vidarbha has reported prehistoric artifacts of Lower, Middle and Upper Palaeolithic period, at sites like Papamiya Ki Tekdi and Jhari Mangrul in district Chandrapur. Apart from these stray sites, strewn all over Vidarbha have yielded stone tools of different Palaeolithic periods. Majority of them have shown the Upper Palaeolithic assemblages together with microlithic tools of the Mesolithic affinity. Geometric and non-geometric tools, besides tiny blades, represent the assemblage. Among the important sites of microlithic assemblages, mention may be made of Kodamendhi on Sur, Pachkheri on Amb, both in Nagpur district and Ghosikhurd on Wainganga, district Bhandara.

As regards the assemblage of Neolithic tools in Vidarbha is concerned, the excavations at Tharsa have revealed it in Chalcolithic context, together with microliths and red ware. Apart from this, there are stray polished tools reported from sites like Kaundinyapura, Mandhal, Gadh, Chandur, Sillevari and Pauni (Fig. 1.2).

Among the sites of Chalcolithic affinity, consisting of red ware and microlithic elements have been reported at sites like Masalarith and Marda, district Chandrapur, Tharsa and Sirkanda, district Nagpur and Bhawad district Bhandara. Noticeably the characteristic pottery types and microlithic elements reported from these sites are spread in the Wardha-Wainganga valley, which extensively gets corroborated from the excavations at Adam. The assemblage indicates a native origin; hence the horizon has been termed as Vidarbha Chalcolithic. Tuljapur Garhi, on the other hand, has reported Chalcolithic pottery types akin to Malwa-Jorwe traditions, suggesting its eastern most extension, at the same time confirming the western limit of distribution of Vidarbha Chalcolithic ceramic tradition within the Wardha-Wainganga valley.

4. IAR 1987-88, pp. 85-86.
5. IAR 1989-90, p. 58.
6. IAR 1989-90, pp. 66-68.
8. IAR 1959-60, p. 31.
10. IAR 1989-90, pp. 66-68.
Fig. 1.2: Distribution map of Archaeological sites located in Vidarbha, Maharashtra
The Vidarbha Chalcolithic occupation was succeeded by the Iron using people. Archaeologists have been working consistently on the various aspects of Iron using communities especially pertaining to their socio-economic traditions.1

Among the distinct types of Megalithic monuments in Vidarbha, the Cairn circles out number other types namely Dolmens and Menhirs. The alignment of Menhirs excavated at Pachkheri2 witnessed an addition in the mode of megalithic tradition of erection of Menhirs reported earlier in the excavations at Maski.3 At Pachkheri the Menhirs were raised by digging up foundation; whereas at Maski erected directly over the ground by giving support of boulders. A few excavated Megalithic habitation sites like Takalghat and Khapa, Naikund4, Bhagimohari5, Bhawad6, Junapani7, Mahurjhari8 have cleared the persisting doubt of authorship of Megalithic monuments. The site at Naikund on Pench river, Nagpur district has exposed an iron smelting furnace, suggesting advancement made in iron technology in Vidarbha.

The Iron Age people of Vidarbha reared a variety of animals which included dog, horse, pig, humped cattle, goat, buffalo, etc.10, and cultivated wheat, lentil, common pea and black gram.11

With the advent of iron technology, the socio-economic scenario of the valley underwent a phenomenal change, which drastically influenced the sectors like agriculture, transport and trade. The surplus agricultural produce, due to inputs of iron technology, paved way for the beginning of corporate living, leading to formation of small city settlements. Ultimately it has not only made the settlements self-sufficient but also increased the potentiality of exchange network between the settlements, giving rise to settlements of bigger dimensions which led to the formation of janapadas during the pre-Mauryan times.

There are references to sixteen janapadas, ruling in different parts of the Indian subcontinent between circa 6th to 4th century BCE and the region of Vidarbha was traditionally a part of Assika janapada, adjoined by the Asmaka janapada. The present site, together with Pauni, surrounded by a rampart of pre-Mauryan times suggest that the Wardha-Wainganga valley was the possible home of Asika janapada, rather than the Godavari valley as suggested earlier, where no habitation site with rampart of pre-Mauryan times was reported.

The diagnostic archaeological remains of the Mauryan period in the form of punch-marked coins, Northern Black Polished Ware and stone objects bearing typical Mauryan polish reported from the excavated sites like Kaundinyapur12, Paunar13, Pauni14 and Arni15 demonstrate Mauryan...
impact in the valley. Vidarbha enjoyed special impetus during the time of imperial Mauryas. The Deotek inscription referring to Dharmamahamatya, governing the region substantiate the Mauryan presence in the region.

The archaeological remains of Sunga period was witnessed in the habitational and stupa cuttings at Pauni. Thereafter, the region witnessed the emergence of two local overlords, viz. Bhadras and Mitras. Though traditions are silent about these chieftains there are adequate numismatic and sigillographic data from this region to give cognizance to their presence. Inferences of these two overlords start occurring from the pre-Satavahana horizons at Kaundinyapura and Pauni.

As regards the archaeology of Satavahanas, there are number of sites like Paunar, Kaundinyapura, Pauni, Bhons etc., etc., which provide overriding evidence to support their continuous presence in the region from early days to their down fall. It is conspicuous to note that the Satavahana sites of the region have reported diagnostic terracottas and pottery in kaolin, but not the russet coated painted ware (Andhra ware) of the Krishna valley sites. As of now, the non-occurrence of the above noted pottery type at sites located in the north of Godavari plain remains a matter of further investigation. It seems increasingly likely that the sites located near the source in the Andhra Pradesh and Karnataka had developed the technology of preparing kaolin terracotta and ceramics and marketed them to other contemporary settlements located on the circum-peninsular route. Extensive deposits of high grade kaolin have been reported in the districts of Nalgonda, Bidar and Warangal of Andhra Pradesh.

Further excavations at Pauni have reported a U-shaped rampart of the Mauryan period on the right bank of the Wainganga. The fortification underwent enlargements in successive periods of occupations right up to the Vakataka period. The most significant contribution of the excavation was the construction of cyclopean wall during the Vakataka period. This ultimately helped the excavator to identify the site with Pravarapura established by the Vakataka king Pravarasena II.

Of this period, there are number of religious edifices distributed at sites like Mandhal, Mansar, Ramtek etc., etc., which provide further evidence to support their continuous presence in the region. As of now, the non-occurrence of the above noted pottery type at sites located in the north of Godavari plain remains a matter of further investigation. It seems increasingly likely that the sites located near the source in the Andhra Pradesh and Karnataka had developed the technology of preparing kaolin terracotta and ceramics and marketed them to other contemporary.

After the fall of the Vakatakas, the region was influenced by the art and architecture of the Kalchuris. Their remains have been seen strewn across the Bhandak region of Chandrapur district and temples in Hemadpanti style, at sites like Lonar, Ramtek, Chandrapur etc. Beside temples, a good number of hill forts were constructed during the Medieval and the late Medieval period at sites like Gavilgarh, Achalpur, Chandrapur etc. A few of the forts and temples of the Gonds are important landmarks in this region.

C. VIDARBHA IN TRADITION

There are sumptuous traditional resources of quasi historical nature on the antiquity of Vidarbha (i.e. Vi-darbha 'destitute of darbha: grass')\(^1\), available in the Puranas, Brahmanas, Upanishads, Epics, etc. These resources provide mines of vital information about the ancient geography, mineral, people, flora and fauna, legendary episodes and luminaries associated with the landscape of Vidarbha. It will be noted that how these data have generated a historical perspective for this part of the Deccan. The term Dakshinapada in the Rig Veda, Dakshinatya by Panini, Dakshinapatha by Baudhayanas and the Nalopakhyana of the Mahabharata generally denotes these regions across the Vindhayas, through Vidarbha and further south in the peninsular region. Vidarbha, comprised of erstwhile Berar and Central Provinces is generally associated with the Varadatata of the Ain-i-Akbari.

In the Pauranic list of peoples, the region of Vidarbha lies between the Pulindas of the Vindhyan region and Dandakas of the western part of the Maharashtra state: Pulinda Vindhyamulika (ya) Vidarbha Dandkaigh saha.\(^2\) Lying between the Wardha and the Wainganga, the region in the north is bound by the Payoshini (Purna) a tributary of the Tapti and south by the Godavari. According to the Puranas like the Matsya, the Vayu and the Markandya the people of this place were dwellers of the Deccan: Dakshinapathavasinah. The Aitareya Brahman refers to the Vidarbhas in the context of Dakshinadis.\(^3\) The Matsya Purana (44.36) and the Vayu Purana (95.35-36) speak of eponymous king of the Vidarbha of the Yadu lineage belonging to the sub sect of Satvatas\(^4\). One of their branches is known as Maha Bhojas. The area of the influence of the Maha Bhoja is generally believed to be coterminous with the region of Vidarbha. The Sabha Parva (31,13) of the Mahabharata speaks of Bhojakapura in the Vena (Wainganga) valley.\(^5\)

The Aitareya Brahmana (VI, 34) speaks of Bhima who was ruling the territory of Vidarbha at the time when Gandhara was governed by Nagnajit: Bhimaya Vaidarbhyaya Nagnajite Gandharaya.\(^6\) This shows a separate entity of Vidarbha as kingdom. The Jaiminiya Brahman (II, 40; Vedic Index, 11, 291) mentions Vidarbha in the context of a country wherein a species of dog (Macalas) which preyed tigers: Vidarbhesu macalas sarameya apiha saridan marayanti.\(^7\) It is believed that some wild variety of dogs, found in the jungles of the Yeotmal district of Vidarbha, is still being trained for prey.

The Kumbhakara Jataka refers to the king Nemi of Videha and Bhima, the king of Vidarbha as contemporaneous.\(^8\) The Vedabhha Jataka narrates the voyage of

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1. The soil was probably grassless and arid; but the absence of Dharba is said to be due to the fact that the son of a saint died of the prick of a sharp blade of that grass. C.f. Monier Williams, A Sanskrit-English Dictionary, Oxford, 1951, p. 965.
5. K. P. Jayaswal, History of India 150 AD to 350 AD, Lahore, 1933, p. 126, f.n. 2
7. Ibid.
8. Ibid. p. 288
Bodhisattva in the company of a Vaidarbhi Brahman from Kaushambi to Chedi Rashtra. The passage from Kaushambi to Bhaddavati or Bhadravati (located say 15 km north of Chandrapur) traversed through Chedi route. The Suttanipata, on the other hand, infers about a southern trade route connecting settlements of Ganga plain, while referring to a sage Bavari of Deccan sending his disciples to the Buddha to pay reverence. These disciples might have followed the track of Wainganga valley to reach their destination. The evidence of Bharhut type stupa at Pauni bearing pre-Mauryan core may lead to such postulations.

Besides the Jatakas and the Buddhist tradition, the Mahabharata provides an interesting account of purchase of horse for the Ashvamedha Yajna by Yudhishtir from the city of Bhadravati. The Ashvamedhikaparvana together with the Jaimini Ashvamedhika enumerate story of procurement of horse from the city of Bhadravati held by the warriors of Yuwanashwa. Bhima with Vrishaketu and Meghavarna defeats Yuwanashwa in astrayuddha and accomplishes the mission of his visit to Bhadravati. Recognizable percentage of horse bones and horse equipments reported from the Megalithic burials chronologically assigned to circa 8th century BCE of the eastern Vidarbha may be correlated with these traditional inferences.

The people of Vidarbha also figure in the Kavyadarsa (5, 40) of Dandin and Mahabhasya (1.4.1 p.634) of Patanjali, besides in the Yoginirmita (2-4), Bhagavata Purana (IV. 28; IX.20, 34; X.52, 21) and Brihata Samhita (XIV.8). In the Ramayana (IV, 41, 11) occur: Vidarbhanrisikamschaiva ramyanmahiskanapi. The Mahabharta infers Vidarbha as the kingdom of Damyanti, the Nala's queen. The Naishadharcharit refers Vidarbha: Yamavapya Vidarbhabhuh prabhum.

The traditional resource further enumerates that the king of Vidarbha had three sons, namely Kratha or Bhima the eldest continued the main line of the region of Vidarbha, while Kaisiki founded the Chedi line located between the Chambal and the Ken valley. The line of the youngest son Lomapada remains obscure.

There are a couple of inferences of matrimonial alliances in the traditional sources related to Vidarbha. The first such inference states that the king of Vidarbha had peace overtures with Sagara, the king of Ayodhya which culminated into a congruous matrimonial alliance. The Raghuvamsa (7, 1) narrates the marriage of the princess of Vidarbha named Indumati with the Ikshvaku king Aja. Such concepts of peaceful and pragmatic accord not only led to a stable relationship between the two sovereigns, but also allowed them to prosper and progress in their respective area of dominance. Such an environment provided opportunity to the region of Vidarbha to expand, explore and flourish in the ecological friendly riverine terrain. This might have resulted into extending sway over new area of occupation to meet the agro-pastoral needs of the subsistence and other inhabitable requirements of mineral and metal.

As the terrain of the Wardha-Wainganga valley was of utmost strategic importance in connecting the settlements located on the trans-Vindhyan trade route, it sounds quite reasonable to believe that such peaceful concordance might had played a pertinent role in colonizing other

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6. Ibid.
Introduction

contiguous ecological zones across the Vindhyas. The archaeological data of the pre-Mauryan times at sites like Eran and Adam corroborates above hypothesis of the early beginning of the colonization in the first quarter of the second millennium BCE in the trans-Vindhyan region.

Corroboratively, the inference of the Rig Veda (1, 179, 4) records an early beginning of the settlement in the Vidarbha when it enumerates the transmigration of sage Agastya across the Vindhyas. Leaving aside the evidence of incipient farming of the Mesolithic period, the first farmers of Vidarbha inhabited the Wardha-Wainganga valley along with the knowledge of the copper technology in the beginning of the second millennium BCE. With the advent of iron technology in the third quarter of second millennium BCE, the region witnessed steady expansion of settlements caused due to increase in population. Such a situation obviously from time to time led to jungle clearance to meet the growing demand of agro-pastoral nature of subsistence, supplemented by harnessing technological acumen. A cluster of iron based agro-pastoral settlements located in the Wardha-Wainganga valley serves as testimony to such postulations.

In the process of colonization, it is surfaced that the region of Vidarbha had to struggle for its survival. As noted earlier regarding the fight for procurement of horse from the city of Bhadravati, the Mahabharata (Udyog Parva: 157) further infers to an episode of strive for existence when Rukmini connives to elope with Krishna against the wishes of her father Bhismaka and brother Rukmi. In order to prevent Lord Krishna, Rukmi places the garrison at Bhojakata which in turn emerges as his second capital in Vidarbha. Another inference of struggle is noted in the Mahabharata relates to the defeat of Bhismaka, the king of Vidarbha at the hands of Sahadeva, the youngest of the Pandav brothers.

In a later inference, the process of struggle leads to division of the territory. A glimpse of the division of the territory of king Vidarbha between his two sons Kritha or Krath and Kausika figure in the Harivamsa (1,36) and the Narada Purana (1,9,63). These divisions denote two separate domain demarcated by the Wardha river. The division of Vidarbha on similar lines is narrated in the Malavikagnimitra of Kalidasa. The Malavikagnimitra speaks of Yajnasena, the king of Vidarbha and his acrimonious relationship he had with Agnimitra, the governor of Vidisha. The reason of enmity between the two strategically located city states was natural as the king of Vidarbha was the brother-in-law of the sachiva of the Mauryan emperor. Yajnasena had deprived his cousin Madhavasena to interfere with the matters of state as he was partisan of Agnimitra an adversary. It is said that when Madhavasena was on his way to Vidisha, the antapala (frontier guard) of Yajnasena imprisoned him. Impulsive Agnimitra, setting aside the proposal of Yajnesena for conditional release of Madhavasena, instructed Virasena for an inroad over Vidarbha. The backlash resulted in the defeat of Yajnasena and division of Vidarbha between the two cousins; the Wardha river formed boundary between the two rulers.

The Malavikagnimitra (Act V, 20) further speaks of formation of new kingdom at Vidarbha (achiradhisthita) and draws simile with newly planted tree (navasamropananasithilastaru). Coincidently, instance of division of Vidarbha between the clan has distinctly been noted at the time of the Vakataka rule when a set of family was ruling from Nandivardhana (Nagardhana), Nagpur and other form Vatsgulma (Washim), Akola. Broadly speaking, even today the tradition continues to nomenclate the region of Vidarbha into two parts – eastern and western, separated by the Wardha river.

Attempts have been made to corroborate the territory of Vidarbha with that of the Asaka or Asmaka. The early Buddhist text Suttanipata locates Asaka in the Godavari valley, a region contiguous to Vidarbha. While Bhattaswami, the commentator on the Kautilya's Arthashastra, identifies Asaka with the whole of Maharashtra. Whereas Dandin in his Dasakumaracharita records Asaka as a feudatory of Vidarbha. Some scholars tend to consider the domain of the Asmaka with that of the Vakatakas of the Vatsgulma.

In addition to Vidarbha denoting as a territory, the traditional sources also account the Vidarbha as river flowing in the eponymous region along with other rivers (Fig. 1.3). The Bangavasi edition of Garuda Purana (I Ch.56,8-10) refers Vidarbha as river in the context of Wardha (Varada) and other auspicious rivers: Vedasmitirmarmada ca varada surasasiva...... Vidarbha ca shatadrushca nadyah papaharah subhah.

The Nalachampu (6.60) equates the Vidarbha river of Maharashtra as 'dakshina Sarasvati':

\[ \text{Virapurshm tandetadvardatarm namakam maharastram I} \]

\[ \text{Dakshina sarasvati sa vahati vidarbha nadi yatra II} \]

In spite of these valued inferences, the Vidarbha river figures as a tributary of the Wardha river, merging at a place called Dharode, located approximately 10 km southeast of Kaundinyapur (Fig. 1.3).

The Pauranic text further provide a list of rivers like Tapti, Godavari, Bhima, Purna and Wainganga etc.:

\[ \text{Tapipayoshini nirvindhay, shipra ca nishadhavati I} \]

\[ \text{Venna Vaitarni chaiva shinibahu Kumudvati II} \]

Besides Tapipayoshini (Tapti-Purna) Vindhyapramukha and Godavari Bhimarathi Krishnavenjadikastatha (the Kanhan and the Wainganga), the inference of the Kanhan and the Wainganga rivers would further be discussed in the subsequent details on the Vidarbha in epigraphs.

Obviously, these river plains of Vidarbha provided basic support system like congenial ecology, natural resource, arable land for colonization. There is an inference to this effect in the Kautilya's Arthashastra that the land of Asmakas associated with western Vidarbha figure in the list of domain which was fit for agriculture (desavapanam).

Among the list of regions bearing minerals, Vidarbha figures in the Kautilyas's Arthashastra. It lists Sabharasstraka as one such region in the Sabharashtra, where diamond mines are situated. Incidentally, the Brahatsamhita of Varahamihira precisely locates the bank of Vena (Wainganga) as the source of diamond. The geological records of minerals indicate Wairgadha situated in the Wainganga valley as a source of diamond.

1. Amarendra Nath, Toponymy of Asaka and Asika, Indica, 27(2),1990, pp. 87-96
3. V.V. Mirashi, Historical Data in the Dandin’s Dasakumaracharita, ABORI, 26, 1946, pp. 20-31
5. M.G. Dikshit, Excavations at Kaundinyapura,

Bombay. p.1; for map see Monica L. Smith, The Archaeology of an Early Historic Town in Central India, Oxford, 2001, fig. 5.1.

8. Ajay Mitra Shastry, India as seen in the Brhatsamhita of Varahamihira, Delhi, 1969, p. 325.
Fig. 1.3: Map showing the Vidarbha Nala a tributary of the Wardha River
where it is found in lateritic grits. Consequent to the association with diamond mining, Wairgadha has been known as Vajrakara or Vajragriha in the epigraphical sources. It is now quite apparent that Kautilya has rightly referred to Sabharasraka as the source of diamond, keeping Wairgadha in mind. According to a commentary, the territory of Sabharashtra has been considered coeval to Vidarbha.

As regards the luminaries of Vidarbha, there is an inference in the Mahabharata of a royal sage named Asmaka (Asmko nama rajarshih). Another sage of Vidarbha finds reference in the Upanishads. His name was Bhargava who was contemporary of Asvalayana and to Vaidarbhi Kaundinya. Kundina has been identified with Kaundinyapura located on the right bank of the Wardha river (Fig.1.3). Further, there is an important inference in the Dasakumaracharitam (p. 180) about a luminary of Vidarbha named Punyavarma, described as the jewel of the royal family of Bhoja. He was regarded as incarnation of virtues who filled the life of a man with worthy deeds. Likewise, the poet Bhavabhuti seems to have belonged to the city of Padampur identified with modern Padampur, located near the Amgaon railway station in the Bhandara district of Vidarbha, Maharashtra. The rich traditions of sages and poets in Vidarbha must have contributed in developing a Vaidarbhi style of Sanskrit composition under the Vakatakas.

The above discussions substantially throw light on the importance of the Vidarbha region in the Indian political and socio-cultural history, and as we proceed with the rich archaeological repertoire of Adam in particular and the other sites of Wardha-Wainganga valley in general, we shall see the development of cultural periods right from the Mesolithic level onwards to the rise of the Vakatakas without any hiatus. These sites, especially Adam provide ample archaeological signatures to substantiate the traditional sources in the reconstruction of history of the Deccan.

D. EPIGRAPHICAL RESOURCES

In order to authenticate the traditional accounts, perusal of epigraphical resources would be desirable for corroboration. Such attempts may provide certain rational explanation to realize the shift of patronage from petty aristocracy to those with potential monarchy. The traditional narrative would thus be regarded as part of history.

The earliest reference to the Bhojas pertaining to the Vidarbha region occurs in the Ashokan Rock Edict XIII. It records that the territory of Bhojas figures along with the Pulideshu - the Pulindas who inhabited the land to the south of the Vindhas. Thus it corroborates the inference occurring in the Puranas noted above that the territory of Vidarbha lies between the Pulidas and the Dandkas.

Among the sixteen Janapadas, Asaka (also spelt as Assaka, Asmaka, Ashaka) which is supposed to have flourished during the life of the Buddha and afterwards is traditionally associated with the region of greater Vidarbha. The inference occurring in Suttanipata in a way gets ventilated when it places Asaka along the Godavari, abutting the Mulaka.

The Mauryan connection of the Vidarbha region of Maharashtra is known since the discovery of Deotek (dist. Chandrapur) inscription. However, nearly

2. Romila Thapar, Recent Trends in the Writing of
half of this edict was damaged due to superimposition of an inscription of the Vakataka king Rudrasena. Another Ashokan edict alleged to have been reported from Ghuggus in Chandrapur district is now lost. A Xerox copy of the said edict has been studied and it is noted that the emperor is described as King of Magadha (Piyadasi laja Magadhē). The version of this incomplete edict has been compared with the well known Bairat stone slab.

The Bhojas of the Asokan Rock Edict got transformed as Bhojakata. It occurs twice in the label inscriptions of Bharhut in the context of gifts to the religious edifice. One pertains to the gift of a nun Dinnaga from Bhojakata (Bhojakatakaya Diganagaye bhichuniya danam) and other gift of Antananta of Bhojakata (Atanatasa Bhojakatakasa suci danam). Another label inscription from Bharhut evokes more precise location: Muchalinda Nagaraja Tisiya Benakati kaya dana, i.e. Muchalinda Nagaraja – the gift of Tisiya of Benakataka.

The above two epigraphical records in turn serve as indicator to the historical process taking shape in the greater Vidarbha region. The process starts with the advent of Buddhism, leading to long distance communication networks, evidently by way of commissioning of edicts at strategic locations. Such long distance exchange networks creates conditions for local sphere of interaction’ leading to socio-economic growth. The combination of traditional and epigraphical data largely helps in the authentication of historical narratives.

5. Amarendra Nath, *Further Excavations at Pauni*

The Bharhut records are the testimony of the Sunga period pertaining to the settlements of Bhojakata and Benakataka located in the Wardha-Wainganga valley. The period after the fall of the Sungas and the rise of pre-Satavahana chieftains in the Wardha-Wainganga valley gets highlighted with the help of numismatic data retrieved from several sites located in this terrain. There are evidence of circulation of silver punch marked coins of the neighbouring regions like the Ujjain and the Mahakoshala, followed by the inscribed punch marked coins of the local chieftains, the Bhadras and their junior contemporaries, the Mitras in the Wardha-Wainganga valley. The inscribed punch marked coins of Damabhadrā are unique finds; besides his sealing bearing the boat motif indicate the navigational venture of that era.

In the pre-Satavahana context of the region can be placed a local punch marked coin. These have been found distributed both in hoards and in stratified contexts at sites of this region. This particular type of punch marked coin has not been reported outside the geographical terrain of the Wardha-Wainganga valley. Such issues have been, therefore, identified as the Asika janaपāda type of the punch marked coins.

Apart from the Asika janaपāda type of the punch marked coins, the valley has also reported from excavations inscribed varieties of the punch marked coins attributed to Dattā, Bhadras and Mitras which has helped in setting their chronological order in a stratified context.

Correspondingly, Vidarbha has also noticed a few stray finds of ‘city-state’


issues of the pre-Satavahana era. These issues are first of its kind retrieved south of the Vindhyas attributed to the 'city-state' of Bhadravati, bearing two types of legends on them; one reads: Bhadavatiya and other: Bhadavato.  

The above data shed light on the emergence of mercantile community in the region of Vidarbha. Rise in the frequency of transaction in currency contributed to brisk cross-country trading activity. Such a situation also helped in integrating new areas in the development of regional trade network during the pre-Satavahana period. With the rise of the Satavahanas, a number of marts developed along the circum-peninsular route and thus the region became a stake holder in long distance trade network connecting both hinterland and overseas corridors. The evidence of seals and sealings further generates the idea of dispatching commodities from one destination to another.

The Hathigumpha inscription of the Mahameghavahana Kharavela is the first record of its kind which refers to his military exploits towards the west in the territory of Satakarni (acitayita Satakamnin pachhimadisam) and the storming of a city called Asikanagaram along the Kanhabemna (Kanahabmnagataya ca senaya vitasiti Asikanagaram) 2. The inscription accounts for the location of Asika along the Kanhabemna which is generally identified with the basin of the present Kanhan and Wainganga rivers flowing in the terrain of Nagpur and Bhandara districts of Maharashtra.

Such instances of ambitious expansion and annexation of Kharavela, led the Satavahanas to resort to military option to make their presence felt in the region of greater Vidarbha as it was rich in mineral, floral and faunal resources. Above all, the Satavahanas wanted to have their sway over the trans-Vindhyan tracks which were connecting the hinterland marts and overseas trade routes both through east and west coasts.

The Satavahana record of Gautamiputra Satakarni addresses him as lord of the Benakataka (Benakatakasmwami). Likewise, in the subsequent record of Vasishthiputra Pulumavi specifically refer to the realms of greater Vidarbha like Asika, Asaka, Mulaka. 3 Their political aspiration in the region is further ventilated in the Sannati inscription attributed to Sri Satakarni. 4

Immutable political situation leads to prosperity and cross country movement of people for the benevolent cause. As noted above, three Bharhut records of the Sunga period bespeak of gifts made by a nun and noble men visiting from Bhojakata and Benakataka. Similar philanthropic attitude is embedded in an inscription on the top architrave of the south gateway at Sanchi which records the gift of one Ananda who was the foreman of the avesani (artisan) of Satakarni. 5 Likewise, the record of Vasishthiputra Pulumavi states of the visit of a monk from the Benakata. Such inferences indicate cross-country ventures of monks, nuns, artisans and noble men to the Buddhist pilgrimage centres like Bharhut and Sanchi located across the Vindhyas and Nasik in the Western Ghats of Maharashtra.

Another inscription of the pre-Christian era has been reported in the forest of Pullar, near Chandala, taluk Umrer, district Nagpur. There are two inscriptions on the right side of the rock-cut surface of the cave. The two lined inscriptions reads:

Inscription of Kharavela, EI, XX, p. 83.

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1. ...sa Vandalaka putasa
2. Apalasa Matikamam

The second inscription partially abraded reads:
...okiyasa.

The first inscription records perhaps the construction of a cave by Apala, the son of Vandalaka and the second perhaps indicate a gift of Aukika. Another fragmentary inscription (no. 23) from Pauni reads Kiyasa Dantani apparently identical to Okiyasa noted above. It is significant to note that the rock-cut cave site of Pullar forest lies in the mid way of two ancient sites i.e. Adam and Pauni. Thus it might have served as a resting place for commuters commuting between the two city centres.

The earliest inference of Vidarbha figure in the Sannati inscription of Sri Satakarni, wherein he has been eulogized as the Lord of Benakataka, Vidarbha, Uparigiri, Aparanta, Asaka, Mulaka etc. Apparently, here, the reference of territories figure in a sequence from east to west, covering parts of greater Vidarbha falling in the valley of Wainganga in the east, Tapti-Purna in the north and Godavari in the south. This inscription further corroborates the territory of Asaka and Mulaka in a sequence as noted in the inscription of Vasisthipurta Pulumavi at Nasik.

Conspicuously, the Sannati inscription remains silent about Asika whereas it figures in the Nasik inscription of Vasisthipurta Pulumavi. Incidentally, the find of a terracotta sealing from the excavations at Adam bearing the legend: Asikasas Janapadasa consolidates in nomenclating the region as that of the Asikas. The find further substantiates the inference of Kharavelas’ Army marching to the city of Asika nagara located in the Kanhan-Wainganga valley.

During the later Satavahana period, the region of Vidarbha received maximum momentum from the time of Yajna Sri. Subsequently, the eastern part of Vidarbha became an integral part of the federal governance by deploying a Mahasenapati who was soon promoted as Maharathi to oversee the territorial as well as mercantile interest of the ruling family. A few of the sealings of Yuvaraja Chandra Sri of the later Satavahana family found at the site of Adam bear a testimony. Later, his stone inscription reported from the East Godavari district records his achievement as king, inter-alia it is now implicit to suggest his sway over the terrain of the Krishna, the Godavari and the Wainganga.

From the later Satavahana horizon, there are inferences of the presence of Kshatrapas in the Wardha-Wainganaga valley. The sites like Arambha, Mansar, Pauni and Adam etc. have reported numismatic and epigraphical data to hold this observation. A pillar inscription assigned to the Mahakshatrapa Rupiamma from Pauni, serves as evidence. Another epigraphical data pertains to the Bhara king Bhagadatta also subscribes to the potential of the region.

As noted above, the Maharathi at Adam, who was first deployed as a Mahasenapati, has been identified as Vindhyashakti. At this point of time, different geographical terrains of strategic importance of the Satavahana domain were governed by a handful of Maharathis with certain immunities of quasi independent nature, besides issuance of coinage in the base metal for local circulation only. Such type of numismatic data corroborates the existence of federal type of governance which might have focused on the regional developments in different economic zones, besides being relevant to the interest of dominion. Gradually, these feudatories who

2. V.V. Mirashi, A. Pillar inscription of Mahakshatrapa Rupiamma from Pauni, EI, 37, 1968, pp. 201-203.
3. V.V. Mirashi, Pauni Stone inscription of the Bhara King Bhagadatta, EI, 24, pp. 11-14.
were playing a cogent role in the political structure of the Satavahanas became chieftains after the fall of the dynasty.

Among the feudatories, Vindhyashakti seems to be the one who ingeniously survived the aftermath of the collapse of the Satavahanas. It is discerned from the corroboration of archaeological data with that of the Puranic traditions that this Vindhyashakti, a feudatory of the Satavahana was the founder of (vamsaketu) of the Vakataka dynasty, with his capital at Purika. According to the Markandeya Purana, Purika is mentioned along with Vidarbha and Asmaka, hence the nucleus of the Vakatakas may be in the greater Vidarbha, covering the regions of erstwhile Central Provinces and Berar. According to the tradition, it is believed that Vindhyashakti was probably the local officer in Berar under the desolate Satavahana Empire, and he continued to administer the territories under his charge even when that power got dislodged1. The base metal coins2 of the Maharathi Vindhyashakti found in a stratified context of the later Satavahana coins together with sealings3 deserves to be treated as the earliest archaeological data on Vindhyashakti, incidentally coinciding with the locational as well as chronological order recorded in the Puranas about the early Vakatakas.

The family history (Kshitipanupurvi) recorded in the inscriptions of cave no. 16 at Ajanta describes Vindhyashakti as founder of the Vakataka clan (Vakataka-vamsa ketuh). It is gathered from the inscription that he took pride in associating himself with the Vindhyas and the vakta, his native place; hence the name Vindhyashakti is obviously an assumed regnal name of the founder4. Since the numismatic and sealing findings reported from the excavations at Adam are attributed to Vindhyashakti, one may have to reconsider the existing view that the Vakatakas rose to power in the Vindhyan region and later migrated to the Vidarbha region5. Notwithstanding to the above view, further research has been able to deliberate the region of Vidarbha as the homeland of the Vakatakas6.

The coins7 and sealings8 of Vindhyashakti bear identical legends, which reads: Kevarana Maharathisa Gotamiputasa Vijhasatisa. Similar types of coins have been reported at sites located in the Wardha-Wainganga valley,9 with an exception from Navasa,10 located in the catchment area of upper Godavari valley. These findings cogitate the homeland of the Vakatakas in the eastern part of the Vidarbha, who later on spread themselves on the greater Vidarbha region and beyond. A visit of a Vakataka pilgrim11 to the Buddhist site of Amaravati in the Krishna valley of Andhra Pradesh could have been possible along the Wainganga-Pranahita corridor.

The Vakataka charters refer to a number of rivers like the Mayosini (may be Payosini), Benna, Madhu, Uma, Hiranya

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8. Amarendra Nath, op.cit.,1996, pp. 183-187; inadvertently here (p. 186) the Prakrit form of Vijhasatisa has been transliterated as Vijaya Satakarni instead of Vindhyashakti.
which have been identified with the Purna (Payosini), Wainganga, Chandrabhaga, Wunn, and Erai respectively. Other rivers associated with the greater Vidarbha include the Wardha, the Tapti, the Purna, the Godavari and the Penganga. The joint flow of the Wainganga, the Wardha, and the Penganga is nomenclatured as the Pranhita river.

These river terrains largely cover deep black, shallow black and mixed red soils, where wheat, millets, gram, rice, cotton, oil seeds and ground nuts are being grown. The arable nature of the land has already been noted in the Kautilya's Arthasastra. Some of these agricultural produce get corroborated by the Vakataka grants. For example, the Pauni grants of Pravarasena II refers a term krishnaleelsalikataka denoting a village with cultivation of black transplanted rice, being grown on the black soil of the locality. The other explanation could be a valued variety of rice as kali kamot or kali mumchh being grown in the region. For some, the term krishnaleelsalikataka may denote kataka as a settlement on the Kanhan (Krishna) river. The other term for crop is lavanatalaka perhaps indicate some kind of oil seed; however some has treated it as place name and compared it with modern Lonara located in the Buldhana district of the western Vidarbha.

In addition to the agricultural economy, the Vakataka grants speak of mineral resources. For example, the bhogas like Lohanagara and Hiranyapura may be indicative of iron and gold deposits respectively. The find spot of the inscriptions of Pravarasena II at Tirodi and Ramtek is coincidently are well known for the manganese-bauxite, likewise, the Chandrapura district is for iron ore. Similarly the Bhivapur region near Pauni reports gold dust being sieved from the sands of a nearby channel. Moreover the region is also known for the gems and semiprecious crystalline quartz. As noted earlier, there is a traditional as well as epigraphical data on the quarry of diamond at Wairagad, known as Vajrakara or Vajragiri. The Hathigumpha inscription of Kharavela records the place as Vajiraghira. Thus the traditional inference of diamond occurring in the Vidarbha region gets corroborated through this epigraphical account.

There are several Vakataka charters retrieved from the Wardha-Wainganga valley which record other than the rivers, the name of places, margas (highways), administrative units etc. located within the Nandivardhan (Nagardhana, Nagpur district) and Vatsagulma (Washim, Akola district) realms of the Vakatakas. Based on these charters, efforts have been made to study the place names, besides the aspects of settlement, economy and agrarian system. Largely, these studies have provided sufficient explanations pertaining to the above noted issues. However, some of the locational analysis seems to have been done on the basis of sound philology without taking into consideration the archaeological potentiality of the site. For example, identification of Arammi occurring in the Vakataka grants has been considered on similar grounds. Now, the location of Arammi has been reconsidered on the basis of archaeological data of the Vakatakas.
reported at Arambha situated in district Wardha in Maharashtra. The site has been identified on the basis of archaeological findings of inscribed potsherd, stone sculpture in Vakataka style as Arammi of the Vakataka grants1.

The locational analysis made with regard to Pravarpura also deserves reconsideration in the wake of new archaeological discoveries made at Pauni in Bhandara district. Prior to the startling results made at Pauni, the site at Paunar is being associated with the Pravarapura, as one of the capitals of the Vakatakas2. Such assertions have been made on the basis of a few Vakatakas coins alleged to have come from the site, located on the left bank of Dham, a tributary of the Wardha. The topographical feature and the excavations carried out at the site hardly show any sign of a pura (fortification) of the Vakatakas, whereas the excavations at Pauni have brought to light an extensive evidence of the Vakataka pura. The site has already reported the copper plates of Pravarsena II issued from Pravarapura3. Since the archaeological data of the excavations and the findings of copper plates attributed to Pravarasena II issued from Pravarapura go hand in hand in considering the archaeological site of Pauni as Pravarapura4.

Like the Guptas, the rise of the Vakatakas resulted in emergence of classical pattern in certain areas of accomplishments. It imbued certain traditions of temple building, creation of life-size images on the one hand and on the other, the rock cut architecture. The description of classism seems to have been restricted to the upper classes5. The archaeological remains at Ramtek, Mansar, Nandivardhana etc. speak of the emergence of Vakataka style of art and architecture.

The downfall of the Vakatakas attributed to the division of the domain in four realms under the successor of Pravarasena I, but it is also believed to have prevented the Guptas in humiliating the Vakatakas. In order to have their say in the central Deccan, the Guptas had a matrimonial alliance with the Vakatakas, but, it could not last long due to sudden demise of Rudrasena II. His widow Prabhavati Gupta, the daughter of Chandra Gupta II, acted as regent in the hands of the Guptas6. Her inscription has been reported from the Kevala Narasimha temple at Ramtek7 which refers to a place, named Chikmari, which also figures in the Deotek inscription noted above; the same has been identified with village Chikmara, near Deotek.

E. TOPONYMY OF ASIKA

Appraisal of toponymy of Asika Janapada in the light of discovery of a sealing at the site deserves to be addressed. Asika as locality features in the Nasik cave inscription, together with the Asmaka8. The antiquity of the Asmakas dates back to the sixteen Janapadas period, whereas the Asikas to the Satavahana era. The territory of the Asmakas has generally been located in the Godavari valley of Maharashtra, overlapping with the parts of western Vidarbha9. In the Satavahana epigraph, since Asika features next to Asmaka, it is believed that the domain of Asika may safely be placed in the eastern part of Vidarbha i.e. Wardha-Wainganga valley.

In support of the above proposition, one may like to examine the inference of Asika, occurring in the inscription of Kharavela at Hathigumpha. It refers to the march of his army towards the west in the territory of Satakarni (Achitayita Satakarnim Pachhimadisam) and the storming of a city called Asikanagaram situated along the Kanhabemna (Kanhabemangataya cha senaya vitasiti Asika-nagaram). There are scores of comments and counter comments on the above verse of the inscription. But these debates may be set aside in the wake of a significant discovery made at the present site of Adam.

The river Kanhabemna of the Hathigumpha inscription has generally been identified with the combined flow of the present day Kanhan and Wainganga. In the valley of combined flow of these rivers, one may place Nagardhana, Pauni and Adam in the category of prominent settlements, as these settlements provide evidence of fortification of the pre-Satavahana era and even of earlier period. The Kharavela's army might have had an encounter with the flourishing Satavahana colony at Pauni located on the right bank of the Wainganga. It was an important destination located on the north-eastern frontiers of the Satavahana’s domain. The excavations at the site have unearthed significant data to support that it formed a part of the trading network on the trans-peninsular route.

The impact of highly eulogized crusade by the army of Kharavela, however, could not be ascertained either from the excavations at the stupa site or habitation area. Such epigraphical verses written at the behest of the crown, at times, turn out to be over statement of an enactment. However, possibility of an assault may not be ruled out.

Nevertheless, the inference of location of city of Asika Nagar along the banks of Kanhabemna (Kanhan-Wainganga) occurring in the Hathigumpha inscription gets substantiated by a discovery made at the present site. It is a clay sealing bearing a legend: Asikasa Janapadasa. Thus the toponymy of Asika is resolved by corroborating the epigraphical data with that of the clay sealing found at a site located in the Wainganga valley.

F. ETYMOLOGY OF ADAM

The excavation at the site of Adam has yielded an inscribed clay sealing bearing the legend: Asikasa Janapadasa, thereby clinching the issue of identification of the present site as a city of the Asika Janapada.

Though the current name of the site as Adam, in all probability, is younger than what has been discerned above. But the material richness of the excavated finds overwhelmingly support the etymological meaning of Adam i.e. 'prominent settlement'. For example ada suffixed with guna reads gunadhyā or in case with dhana it forms dhanaddya (rich or wealthy); here adhya or addya is suffixed to ma short form of grama, i.e. village or settlement of affluent. Thus with the passage of time adhya+(gra)ma or addya+(gra)ma appears to have been corrupted to Adam.

The other etymological derivation for Adam could be 'forest - clad settlement', provided it is considered as a borrowing from atavi i.e. forest. It is quite likely that during ancient times, there were thick intervening forests between Adam and the other neighbouring settlements around it. There are several traditional sources, which speak of forests in the vicinity of towns. Incidentally, the physiography of Adam and its neighbourhood suggest its location

5. Amarendra Nath, MASI, 97, New Delhi.
Pl. 1.1: General view of southern arm of the rampart and adjoining farm land at Adam

Pl. 1.2: Panoramic view of the site at Adam with an opening in the eastern arm of the rampart
amidst thick forest based ecology. The subsistence economy of the ancients was seemingly conditioned by the local environment who exploited the natural surroundings not only to meet their own requirements but also aimed at surplus production to gain overall prosperity and richness.

Incidentally, the above etymological analysis has some parallels in the Vaniya-gama (village of traders) or 'vanig-grama, which spread in to the south as manigrmam; "(it) was an association of traders related by common interest in trade that had to pass through a particular centre. These traders were given royal charters [...] and enjoyed social immunities, but were restrained from excesses against their hired workers".

In the light of the above discussion, it is not unreasonable to presume that Adam too had a kind of demographic management leading to some kind of social parameters in which the mutual interest of traders and trade was kept over and above other aspects, with a primary objective to earn greater richness for the society, for which Addya-gama (Adam) became a synonym.

G. PREVIOUS WORK

The site at Adam remained in hibernation from the reaches of early explorers of the region. Unexpectedly, Imperial gazetteers of the region, the publication of Henry Cousens and the two Annual Reports of 1926-27 and 1927-28 remained silent about the site. Even when Pauni, the first fortified site was subjected to excavation (1969-70), Adam allowed to remain in oblivion. Further to our dismay when the site had reported a hoard of eleven Roman aurei in July 1970, priority was given to the description of coins, than to the source which reported the hoard. K.D. Kawadkar of the State Archaeology Department, Government of Maharashtra, posted at Nagpur reported that a local person, named Baburao Hari Ganvir, while ploughing a nearby field, found that hoard. It is claimed that the local police of Kuhi had acquired almost all the coins from the finder. Subsequently, the coins were acquired in two instalments of nine and two coins from the Sub-Divisional Officer, Umrer, under the provisions of the Indian Treasure-trove Act, 1878. Out of the eleven, two coins have been attributed to Augustus while nine to Tiberius. Kawadkar, while reporting the hoard states that the site was situated on the ancient trade route, linking Tripuri and Vastagulma (Washim) and also postulated that these coins were brought to the site by some trading Buddhist pilgrims.

Ajay Mitra Shastri made subsequent inspection of the site when his team was carrying out excavation at Mandhal, taluk Kuhi, district Nagpur. Shastri records that Adam is located 5 km north-east of Mandhal. To him, it is a known Satavahana site from where a Roman coin was found earlier. Apparently, he is referring to the hoard of eleven Roman gold coins reported by Kawadkar. Anyway, the visit of Shastri to the site was encouraging as the explorer reported a Neolithic celt, carnelian beads, brick structures, storage jars in red ware, skin rubbers, legged querns and black on red ware. Finally he concludes by recording that the site 'seems to have been enclosed by a mud rampart'. Shastri deserves all praise for such observations as it was going to change the complexion of the archaeology of the Wardha-Wainganga valley.

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2. The Imperial Gazetteer of India, Oxford vol. XVIII, 1908, pp. 304-321.
3. Henry Cousens, Antiquarian Remains in the Central Provinces and Berar, Calcutta, 1897.
7. K.D. Kawadkar, Adam Hoard of Roman Coins, JNSI, 34, pp. 243-47.
8. IAR 1975-76, p. 36.
More than a decade later, the site was revisited (Pl. 1.1). It was noted that the site, locally known as ‘Qilla’, encloses remains of rampart (Pl. 1.2) measuring tentatively 325 x 325 m with a gateway on the eastern flank (Pl. 1.3). The site reported a few sherds of blank on red ware bowl with coarse fabric with a distinct Chalcolithic red slip, painted in typical black showing concentric lines and comb-like design. Besides typical early Historical pottery types, a silo or soakage jar, partially exposed was noticed embedded at the site. Black and red ware sherds bearing graffiti marks were also picked up from the site. Stool type four legged querns and mullers were seen under worship as mother goddess on the western side of the rampart. Four copper coins were also picked up from the site. One of them was attributed to the early Historical period while two to Abdullah Qutb Shah of the Qutb Shahi dynasty (CE 1657-58) and one to Ahmad Shah Bahadur (CE 1748-58). Apart from this, visit could also locate a circular mound, at a distance towards northeast of the rampart.

Pl. 1.3: Eastern gate of the habitation mound-ADM-1 and a distant view of circular stupa mound-ADM-2

1 IAR 1987-88, pp. 84-87.
II

PHYSICAL FEATURES

A. THE SETTING

The socio-political region of Vidarbha may distinctly be divided into eastern and western zones on the basis of geophysical considerations. The eastern part comprising the Wardha-Wainganga valley is a zone of physical as well as cultural transactions. Here, basalt comes into contact with the older crystalline rocks, giving rise to granite-gneissic relief besides schist\(^1\). The basin is bound by the hilly Satpura on the north, the Maharashtra plateau on the west and Chhattisgarh basin on the east. It has a natural slope towards south and southeast. The lower western part of Vidarbha plain is, however, drained by the Penganga river, a tributary of the Wardha river. Except the west flowing river Purna in upper Vidarbha, all other rivers of this valley drain either into the Wainganga or into the Wardha. The greater part of the region is an undulating plain, but low hill ranges, at places, traverse it. A strip of the Satpura hills falls within the northern part of Nagpur district followed by the western extremity of the Ambagarh hills of Ramtek. Along the western length of Nagpur runs another low range of hills, which form into a valley of Wunna (also spelt as Wun) and continues to the southeast of Umrer. Pilkapar, another small range, crosses Katol from north to south.

B. CLIMATE

The semi-arid monsoonal climate of Vidarbha is governed by its geomorphological features such as plateau like morphology, shallow stream valleys and tropical forest cover. The horizontal geophysical stretch of peninsular craton of the Vidarbha region falls in the zone of climatic contrasts which brings variations in the rainfall. In the absence of mountains of conspicuous altitude, the temperature condition hardly fluctuates. On an average, the summer temperature ranges between 35\(^\circ\) to 40\(^\circ\) C, with a maximum rise up to 48\(^\circ\) C, while in winter, it ranges between 30\(^\circ\) to 35\(^\circ\) C. Due to natural forest cover in the surroundings of eastern Vidarbha, the winter temperature at times become relatively inclement, when it goes down to 6\(^\circ\) C. The monsoon rains are witnessed from June to October, while some down pours are also experienced on the onset of winter. The summer and winter precipitation of around 1000 mm influence the landscape and cropping pattern in the Wardha-Wainganga valley. In contrast, certain parts of the western Vidarbha falls in the rain shadow zone which causes adversely to the growth of agro-pastoral economy. Draughts are fairly common. The rains around 10\(^{th}\) June in Nagpur region coincides with the monsoonal rains in the coastal areas of the Western Ghat. This is caused due to the intermingling of monsoonal air from the Arabian Sea and the Bay of Bengal. Here the rains are largely received in the second part of June and continues up to July with dependable spill over in September.

C. DRAINAGE SYSTEM

The drainage system in Vidarbha region is largely south and southeast flowing and draining into the Bay of Bengal, except the Purna river, which is a tributary of Tapti, drains into the Arabian Sea. The Wardha and Wainganga rivers are perennial in character and flow intermittently forming pools at places between gravel bars. These rivers and their tributaries largely flow straight in the shallow stream valleys showing negligible signs of meander. These rivers and its tributaries have not

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Fig. 2.1: Distribution map of archaeological sites in the Wardha-Waingang valley

Distribution Map of Archaeological Sites in the Wardha-Wainganga Valley

INDEX

- District
- Tashil
- Medieval
- Early Historical
- Megalithic (Iron)
- Halcolithic
- Microlithic
- Stone Age

Scale: 10, 0, 30 km
deviated much from the existing riverine terrain. The settlements on the banks of perennial sources are located on the upper plain to avoid occasional flooding during the monsoons. The settlements on the non-perennial monsoonal streams are located slightly away from the flood prone plain.

As regards the drainage system of the major rivers and their tributaries in the Wardha-Wainganga basin, it may be noted that the Wainganga river rises from the Maikal range of Madhya Pradesh, near Baitul. The ancient Wainganga (Venna) of Vidarbha then takes a southerly course, covering drainage area of approximately 37,988 sq km before joining the Wardha river. Its tributaries, excluding the small streams and rivulets, are the Kanhan, Pench and Penganga (Fig. 2.1).

The Kanhan and Pench rises from the Satpura range in Chhindawada district of Madhya Pradesh and meet few kilometre north of Bina near Kamptee. On the left bank of Pench, a major Megalithic site at Naikund has yielded remains of black smithery which serves as one of the earliest evidences of exploitation of iron ore in this region. Along the Kanhan river are noticed a few prehistoric and Megalithic sites. The Kanhan river, joined by the Nag river at Saongi in Nagpur district, meanders eastwards and ultimately meets Wainganga at Ambhora. Scores of Middle Palaeolithic sites lay scattered on the sides of the Nag river. Sand is another river of the upper Wainganga valley, issuing from the Khindsi lake near Ramtek, has reported a Chalcolithic site at Tharsa; it meets Kanhan, a few kilometers north-east of Rajola in Nagpur district (Fig. 2.1).

Another tributary of the Wainganga is Sur which rises in the hills of Sconi, Madhya Pradesh. Cutting a narrow gorge in the Ramtek range of hills, it flows eastward to meet Wainganga a few km south of Takri in Bhandara district. On its course, it passes past the Mesolithic site of Kodamedhi, situated on the right bank, while Sirkanda, a Vidarbha Chalcolithic site and Wakeswar, an early Historical site are located on the left bank

Another network of tributaries of the Wainganga is seen originating from the uplands of Kuhl and Umrer talukas of Nagpur district. Of these, the Amb river flows eastwards, joined subsequently by the Woghar, Wagh and Nagan and then empty itself into the Wainganga at Ambhora. Along the Amb river are located the Megalithic sites of Dongar Mauda and Pachkheri and the site of Adam is located along the Woghar (Fig. 2.1). Another tributary, the Chulband flows on the left flood plain originates in the uplands of Gondia and joins Wainganga at Aonli in Bhandara district. On its right bank, lie the Chalcolithic-Megalithic sites of Bhawar and Pimpalgaon. In its forward journey past the Buddhist site of Pauni, on its right bank, the Wainganga river is joined by rivulets like Mul and Andhari and finally by Wardha, south of Chandrapur after traversing a distance of some 295 km, south of Ashti. The joint flow of Wardha and Wainganga, known as Pranhita, traverses further south and meets Godavari in the south of Sironcha taluka of Gadchiroli district of Maharashtra.

As regards the drainage of the Wardha (ancient Varada) and its tributaries, it may be noted that the river system drains the central and eastern parts of Vidarbha. The Wardha takes its source in the Multai plateau of Madhya Pradesh and has a drainage area of 46,182 sq km. Its main

Fig. 2.2: Physiographic map of the Study Area

PHYSIOGRAPHIC MAP OF THE STUDY AREA

Excavations at Adam
tributaries are the Wunna and Bembla. The concentration of early Historical sites on the Wardha river has been noticed immediately south of Arvi uplands in the vicinity of the famous site of Kaundinyapur.

The Wunna rises near the hills of Mahadagad in the Pilpar range in the Katol taluka of Nagpur district. From these uplands originate a number of seasonal streams and streamlets, namely Bor, Dham and Pothra, terminating into the Wunna. Along these streams are situate the Megalithic site at Raipur Hingna and a few early Historical sites at Arambha and Hinganghat. The Wunna continues its southward flow to meet the Wardha at Satvangi in Wardha district.

Bembla, a small tributary of the Wardha, rises from the uplands of Yeotmal and terminates into the Penganga at Vatkhad Khurd. The Wardha finally joins the Wainganga, south of Ashti.

These river plains, mostly underlain by basalt, are largely fed by heavy rainfall. The seasonal erosion due to increased rainfall has changed the surface configuration considerably, leaving a number of isolated hills and denuded plains. The Wardha-Wainganga basin is a structural syncline, occupying a crystalline base. The general elevation of the entire Vidarba ranges between 150 m to 1050 m above M.S.L whereas in the basin, it is less than 300 m above M.S.L. The physiography in the neighbourhood of the site explains this point (Fig. 2.2).

D. SOIL

The nature and intensity of weathering and the mode and rapidity of fluvial transport on the plateau influence the characteristics and distribution of soils in entire Maharashtra.

The main soil type of the Wardha-Wainganga valley is the black soil, which formed due to the weathering of the Deccan Trap and its subsequent transport over a period of time to long distances in the valley. This soil, popularly known as black cotton soil is basically alkaline brown soil, varying from 7.2 to 8.5, which is very fertile. Along the flood plains of the Wainganga are deposited the loamy soil with a high water retaining capacity. The presence of monte-morillonite clay minerals in the black soil helps moisture retention which is boon for rainfed farming in the semi-arid region.

Owing to the forest cover and rugged formations in districts like Chandrapur, Gadchiroli, Bhandara and Gondia, only 25% to 40% of the area is under cultivation. Nagpur, though a basaltic formation, possesses very fertile soil and hence, two-third of the area is under cultivation. The soil derived from granitic decomposition is light and less productive however, suitable for kharif crops. Crops are generally grown in black soils, which support rabi crops like jowar (Sorghum bicolor), even without irrigation.

The overall assessment of the physiography of the Wardha-Wainganga valley unfolds an array of reason as to why the ancient men preferred this part of land. Rich in mineral resources, together with belts of gallery forest and extent of arable land, supported human habitation form the terminal Pleistocene period down to the modern times in this region. These natural resources helped in the process of development of subsistence pattern from the Mesolithic period to the early Historical period.

1. IAR 1984-85, pp. 53-55.
Fig. 2:3: Distribution map of mineral deposits in the south-eastern part of India
**E. FOREST COVER**

The basin as a whole consists of Nagpur-Wardha plain on the west and the forest covered Wainganga valley in the southeast. The area is more prone to climatic influences from the Bay of Bengal owing to its lower elevations. The area receives more than 1500 mm of rainfall annually with a hot summer having the temperature soaring up to 48°C and a cold winter having the temperature coming down to 6°C. Except the monsoon season, when the humidity is high, the air is generally dry. Owning to high rainfall, which is heavier than the plateau of Maharashtra, it is rich in natural vegetation, covering the rugged hilly land. The valley comprising the Nagpur, Wardha, Bhandara, Gondia, Chandrapur and Gadchiroli districts, accounts for more than half of the forested area of Maharashtra. Based on the rainfall, these forests have been classified into three types, viz. (i) tropical moist deciduous forests, (ii) dry tropical forests, and (iii) tropical thorny forests. Chandrapur and Gadchiroli districts fall in the first category of forests cover which provide rich dividend to the state government. Bamboo is very common in the well drained areas of Chandrapur district. However, the dry tropical and thorny forests are fast disappearing.

The growth of teak in the mixed moist deciduous forests of Nagpur, Bhandara, Gondia, Chandrapur and Gadchiroli districts is luxuriant.

**F. FLORA AND FAUNA**

Moderate to high rainfall adequately supports the water retaining capacity of the loamy soil of eastern Vidarbha, especially in the Bhandara district and tank irrigation supports the crop cultivation. Rice is the principal kharif crop with a high yield. The region is also known for rabi crops which include jowar, wheat, pulses, oilseeds and cotton.

Important among the fruit crops are Indian jujube (*Zizyphus jujube* Lamk.), lemon, orange, mango and tamarind.

As regards exploitation of the botanical resources during the ancient period, the present day flora provides some clues. Presently, the site is surrounded by a variety of fruits bearing trees namely *Tamarindus indica* (Tamarind, imli), *Zizyphus jujuba* (Indian jujube) and *Mangifera indica* (mango). Apart from the fruit bearing trees, there exist other trees like *Acacia nilotica* (babul), *Dendrocalamus sp.* (bamboo), *Madhuca latifolia* (mahua) and heavy growth of *Tectona grandis* (teak). Some of these flora can be noticed in and around the site (Pl. 2.1, 2.2, 2.3 & 2.4).

The site in the present day is rich in fauna, both of wild and domesticated variety. Among the domesticated ones are *Bos indicus* (humped cattle, zebu), *Bubalus bubalis* (buffalo), *Capra hircus* (goat), *Canis familiaris* (dog), *Teliscatus domesticus* (cat) and *Sus scrofa cristatus* (pig). Among the wild ones are *Canis aureus* (jackal), *Vulpes beagalinguis* (fox) and *Lepus reficauclatus* (hare).

**G. MINERAL RESOURCES**

Among the older geological formations in parts of Vidarbha there are deposits of quartzite, banded hematite, limestone and a variety of schist in the localities of Nagpur, Yeotmal and Chandrapur. Besides, the Nagpur-Chandrapur region has reported manganese ore. The Mansar schist, located in the vicinity of Nagpur also contains manganese (Fig. 2.3).

The younger geological formations noted in the Chandrapur, Yeotmal and Nagpur districts contain sandstone, shale and coal seams.

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Excavations at Adam

Pl. 2.1: General view of flora in the midst of farm land on the eastern side of the mound (ADM-1)

Pl. 2.2: Farm land parallel to the northern arm of the rampart
As regards the quaternary formations, there are noticed patches of laterite of sedimentary nature embedded over the strata of shale stone and alluvium deposits, comprising of coble, pebble, sand, silt, clay etc.

Apart from being major source for manganese and iron ore, the Wardha-Wainganga valley has reported minerals of copper near Thaneswana (19° 51'N; 79° 48'E) Pular (20°51'N; 79°30'E) and Govindpur (20°29'N; 79°37'E). Prospective source has come to light to the east of Maur river, while Dongar Mauda has reported minor copper-lead-zinc mineralization. Corundum of bluish black, associated with talc-sericite and sillimanite quartz schist has been noticed near Pohra (21° 02' N; 79°51' E), Wasi (20° 30' N; 80°10' E) in Bhandara and Chandrapur districts respectively. Minor patches of mica also figure in the sedimentary formation, while ochre of good quality occurs in the Wainganga valley. The inferior quality of yellow ochre has been reported from Khairi (21° 09' N; 78° 40' E) and Kalameshwar (21° 14' N; 78° 59' E).

Veins of semi-precious stones like agate and chalcedony, have been reported in the traps of Nagpur district. Gold has been reported from the quartz veins at Kolari, Mokhabardi and Pular-Parsori near Bhiwapur. It is being sieved along the streams located in the neighbourhood of the above noted sites.

There are archaeological data reported at the site to support that some of these items were hopefully mined and extracted for further processing and manufacturing of artifacts either directly or through certain agency.

H. SITE ANALYSIS

Adam (21°00' N, 79°27' E) lies in the Kuhl taluka of Nagpur district on the left bank of Woghar, a non-perennial tributary of the Wainganga (Fig. 2.2). The site is approachable directly by the state transport buses plying form Nagpur and by train up to Kuhl on the Nagpur-Nagbhir section of the Central Railway. The archaeological remains at Adam have been located distinctly on two mounds, the larger being a fortified habitation mound i.e. ADM-1, locally known as Bale Qila and the smaller being a stupa mound i.e. ADM-2, locally known as Devi Hudki. These mounds are totally free from encroachments and thus intact and well preserved (Fig. 2.4).

The village of Adam is situated at an elevation of 260-275 m above M.S.L. It has a slope towards the east which extends towards the southeast direction (Fig. 2.3). The ancient site, located a few metres east of the present village has a gentle slope from the northwest to the southeast. The oval mound (ADM-1) has its longer axis running in the east-west direction, while its shorter axis, north-south, is parallel to the present village (Fig. 2.4). ADM-2 mound is located at a distance of 150 m to the east of ADM-1.

The general topography of the site does not show any major features other than a few isolated hillocks and mounds. At a distance of approximately 5 km, lie the uplands of Kuhl, wherefrom originate many small streams and streamlets which drain the neighbourhood and the adjoining plains of the site (Fig. 2.2).

In the process of near neighbourhood analysis of the site, an investigation about the availability of raw materials, arable land and building materials in the vicinity of the site has been done. It is seen that the inhabitants of the Mesolithic period made use of only those materials for their tool kit, which were easily available in

1. Director General (GSI), Geology and Mineral Resources of the States of India- Part II - Maharashtra, 1974, Delhi.
plenty around the site. The other sources of sustenance for them were exploitation of forest and water resources of the neighbourhood.

By the Chalcolithic time, the people started exploiting large areas, i.e. the plains lying in an elevation of 245 m to 260 m above M.S.L. within a radius of 2-3 km from the site and converted a major part of it into farmlands. Even today, these plains, which lie as a trough between two tablelands, are highly fertile with a good crop yield of soya bean, rice, lentil, gram and cotton etc. The farmers practice the rotation of crop system with two crops in a year. The settlement, in all periods, overlooking the Woghar river must have depended a lot on it for the purpose of fishing. The people started exploiting forest reserves and resources of copper, gold etc. in the Wainganga valley. They might even have made shift type of camps near the quarries and to corroborate this point, meticulous survey is essential to identify quarry sites.

In the succeeding periods, after the advent of iron, travelling some distances for gathering materials might not have been a very difficult task. The iron using people must have witnessed demographic growth which led them to clear the forest area adjoining water sources for cultivation of various crops. Apart from this, the people must have acquired their building materials such as stone and wood, lateritic soil as mortar, from the adjoining uplands and also from the surroundings of the site. The site contains schist stone, overlain successively by laterite and medium black soil. Similarly, trapping the veins of chalcedony, carnelian, agate, quartz etc. became possible from the vicinity of the site.

I. MOUNDS

The ancient remains at Adam are spread over a large area. As noted above, it is comprised of two mounds viz. Bale Qila (ADM-1) and Devi Hudki (ADM-2). The excavations at both the mounds started simultaneously in 1988 which continued for four field seasons (1988-1992), however, at ADM-2, the work was completed in the first field season.

ADM-1: Rising about 8 m above the surrounding plain, the ovalish mound, distinctly demarcated as a habitation site (Pl. 2.3), is encompassed by a rampart and encircled by a palaeo-depression, indicating a moat (Pl. 2.4). The mound covers an area of 88,000 sq m (8.80 Hect.) inclusive of the rampart, while the habitation area within the rampart measures 50,400 sq m (5.04 Hect.). The moat (Pl. 2.4) covers an area of 63,500 sq m (6.35 Hect.). In the later phase of occupation, the habitation spreads actually all over across the moat. The surface feature indicates a gradual slope towards the southeast side. In concordance to this observation, the excavation in the northern core sector of ADM-1 has reported occupational deposits resting over a higher natural plain, as compared to the other occupational areas within the habitation, showing natural slope towards the southeast. This natural elevation had its role in ancient time in channelizing the water courses.

The contour pattern of the mound further reveals that the ancient settlement was originally provided with four gateways in the cardinal directions to which a small addition was also made towards the south-western corner in the later phase of occupation. The main street connected to the eastern and western entrances appears on the contour map clearly, while features of bifurcating streets can also be observed in relation to the entrances on the northern and southern side. The centre of the habitation was at a height of 264 m above M.S.L. (Fig. 2.4).

ADM-2: A hemispherical mound of low height lies at a distance of 150 m east of
ADM-I, on the right side of the road leading to Majari village (Pl. 1.4). It has an area of 1,520 sq m (0.15 Hect.) and a height of 4.34 m from the ground (Fig. 2.4).

The surface feature shows squarish pitching of random rubble at it central top while it’s compact terraced profile is made up of earth, mixed with lateritic gravels.

Pl. 2.3 : General view of habitation encompassed by a rampart, ADM-1

Pl. 2.4 : A view of rampart and moat on the western side, ADM-1
A. INTRODUCTION

When the cross currents of Malwa and Jorwe cultures were felt at sites situated in the mid Tapti and Godavari, Prabhara and Bhima valley, basin of the Wardha-Wainganga was nurturing a native post Harappan Chalcolithic culture. As a matter of fact, the geo-physical barrier around the thickly forested basin and the vast expanse of arid areas of western Vidarbha restricted the migration of early farmers of the western Deccan beyond Tuljapur Garhi, located in the Purna valley.

The evidence of the earliest human presence in the vicinity of the present site of Adam has come in the form of stray Palaeolithic tools, apparently in a secondary context, while the Mesolithic artifacts have figured in a primary context. Gradually, the basin transformed into agro-pastoral subsistence from that of a hunting-gathering type. The early farmers of the region had their independent ceramic tradition with certain pottery types in the form of dish-on-stand etc. Subsequently, with the advent of iron technology, there was noticed a drastic change in the land use pattern. During the period, new settlements came up; some settled close to iron-ore sites, while a few chose a combination of both forms, where they could exploit the natural resources as well as practice agro-pastoral subsistence, with essential amount of craft specialization. The rise in settlements led to the clearance of thickets, the region became accessible to those who practiced the Megalithic traditions of the peninsular India, who brought the burial practices in the form of cairn circles, pit circles, cist, menhirs and dolmens. Apart from this, it also started interacting with other contiguous regions and ultimately became part of the unified Mauryan Empire. At that point of time, a few more fortified settlements had emerged in the Wardha-Wainganga valley which played an important role in the growth of urban centres at strategic locations contributing to the hinterland trade in the trans-Vindhyan region.

The sustained excavations at the site, spanning for four field seasons (1988-92) have reported an unbroken sequence of five successive cultures starting from the aceramic Mesolithic period to the early Historical period (Fig. 3.1). The main characteristic features of each of the five cultural periods and its material equipments are detailed below (Fig. 3.2).

B. PERIOD I

Period I is represented by layer (18) and has a deposit of about 60 cm thickness lying over the natural soil, containing Mesolithic assemblage (Fig. 3.3). The assemblage, free from pottery, has been noticed in the cuttings covering quite a large area, extending precisely 220 m north-south and 190 m east-west. Such a vast expanse of the assemblage at one place suggests a semi-sedentary lifestyle of the first settlers at the site who produced microlithic tools for their subsistence. They selected the denuded lateritic surface for their base camps, which has a gentle slope towards south-east overlooking the shallow flood plains of Woghar stream. The locational analysis shows that the site was suitable for fishing and hunting, besides food gathering. In their subsistence, the production of microlithic tools served as an important commodity which required selection as well as collection of raw materials besides technological accomplishment in its manufacturing technique, leading to certain amounts of craft specialization and distributions of labour. The preliminary morpho-metrical observations of artifacts suggest that the raw material was collected from the riverine deposits of Woghar. While the typo-technological observations made on the artifacts and the statistical analysis of the
Fig. 3.1: Adam : 1988-92, Schematic section
assemblage including the micro-debitages indicate that it was primarily a habitation site where tools were manufactured.

The tool assemblage mostly comprises lunates, points, burines, scrapers, triangles, backed blades, simple blades and bladelets and flakes. These are fabricated on siliceous material such as chert, chalcedony, agate and quartz. The micro-wear analysis of these tool types remains to be carried out. However, the results obtained elsewhere with regard to lunate, it is observed that it was preferred to be used as blade or knife for cutting soft plants, meat, hide etc., besides being used as hafted barbs in arrows.

The deposit in which these tools were reported was reddish brown sandy in composition occasionally mixed with tiny bones and particles of charcoal, indicating certain amount of fire activity in the period. The presence of these tiny bones especially of birds and rodents may indicate dietary practices of the Mesolithic people. The sites of Ganga valley have yielded tiny bones of bandicoot rat Bandicota cf. bengalensis, porcupines species Hystrix indica, tortoise Lissemys punctata and Clitita indica and birds Gallus galliformes. It may be noted that consumption of small animals is still being practiced as it contains relatively high edible meat.

As regards the structural remains of the period, on careful scraping of the layer (Tr. L8/3) in an area of 3.00 x 2.70 m, a suspected patch of mud floor was noticed containing five post-holes of varying diameter (Fig. 6.1). Likewise, another structural remain of larger dimension was noticed in the cuttings of trench P14. Here, the exposed lateritic surface was dressed to suit their requirement of an oval structure and circular platform (Fig. 6.2). Detailed description of these structures figures in chapter VI.

C. PERIOD II

Period II, represented by layers (17) and (16) witnessed the emergence of the first farmers with all their characteristic cultural components like farming, animal husbandry, pottery, copper, bone artifacts and polished stone tools, together with component of microliths. The assemblage has been termed as 'Vidarbha Chalcolithic', as the dominant pottery type distinctly remained as variant to other coeval ceramic traditions of western Maharashtra and Narmada-Tapti plains. Distribution of diagnostic pottery types at sites located within the confines of the Wardha-Wainganga basin in the eastern Vidarbha justifies the above nomenclature. Marked by a deposit of nearly a metre thickness, belongs to one compositional class of clayey earth, varying in colour from dark brown to pale brown, with an admixture of grit and charcoal bits. It was overlying on the preceding deposit without any mark of hiatus.

The pottery, essentially regional in its make up, consists of red, black-and-red and all black wares, of medium to coarse fabric, largely wheel turned with some exceptions. All the wares invariably of non-metallic textures are ill-fired with a smoky core showing many tampering materials. The diagnostic shapes are the globular vessels with broad mouth having funnel like rim. The repertoire also comprises types of painted wares, the paintings being executed on them either with white or black pigments. The design elements met with include groups of vertical and horizontal lines, bands of latticed diamonds, combed designs, wavy lines, obliquely indented lines, converging lines, groups of horizontal lines, series of horizontal dotted lines,

1. Personal communication from Shri S.B. Ota, the then Superintending Archaeologist, Prehistory Branch, A.S.I., Nagpur.
Fig. 3.2: Adam: Culture Sequence at a glance
oblique lines interconnected by horizontal dotted lines, dotted lines interconnected by horizontal lines, zig-zag decoration, etc. The shapes of the painted wares are mostly vase, followed by jar, basin, dish, dish-on-stand, bowl, and miniature pot.

An interesting evidence of a circular structure has come to light, but, due to limitation of space, only the western half of the structure could be exposed. The circular structure revealed post holes, spaced at regular intervals of 50 to 58 cm along the circumference of the rammed mud floor. Another burnt clay floor with postholes yielded a whetstone and polished celt-like object of shale stone. Later, from a different dig, another schist celt was found on a floor, adjacent to two circular fireplaces containing ash. The polished celt-like object of soft material might suggest some ritualistic observances as has been reported at Gufkral and Sikkim.

The important finds of this period included a copper ring, a crucible, terracotta annular beads, bone stylus and incised bone dice.

The cultural components of period II suggest that the inhabitants were basically dependent on farming and stock rearing, besides resorting to hunting and fishing.

D. PERIOD III

Besides an overlap in certain cultural components of the preceding period, the cultural assemblage of period III is distinguished by the introduction of iron technology. However, owing to some deletions and additions in the cultural components, the deposit of this period has further been subdivided into sub periods III A and III B. The sub-period III A is represented by layers (15) to (12), and the sub-period III B by (11) and (10).

Sub-period III A is distinguished with the introduction of iron technology at the site. The period ushered an era of technological advancement, resulting into significant change in the complexion of the settlement. The people of this period exploited the neighbouring iron ore deposits for making tools and implements for the first time. As regards the ceramic types, bowls with feature-less rim and other associated Megalithic pottery of peninsular India starts occurring from this horizon. A significant feature is the frequent mixing of mica dust in all the slips. Red ware is the major ceramic type followed by black ware and black and red ware. The ceramic types are decorated either in black or white pigments. In addition to the design repertoire of the preceding period, a few more are added; which include groups of thick wavy lines, diminishing piled up strokes and varieties of converging lines and complex comb patterns. However, the plain pottery dominates the scene. The shapes met with are vases with splayed out rim and constricted neck, vases with globular body, vases with inturned rim and globular body, dish-on-stand, bowls, spouted vessels and dishes.

An element of organised community living has been noticed in sub-period III A for the first time, wherein a low rampart was raised around the settlement. A trough like moat was also dug along the outer toe line of the rampart. The general house plans has not shown any remarkable change. Artifacts of iron start occurring from this level which includes agricultural implements, weapons of offence and defence, carpentry tools etc.

Among the other artifacts are copper, bone and shell objects, beads and pendants of semi-precious stones and terracotta.
Fig. 3.3: Sections of Trench Nos G1/1 and ZB3/1 laid in the habitation area indicating sequence of culture.
Other significant finds are an etched tabular bead of carnelian and a bone disc with radial incisions.

Sub-period III B is marked by layers (11) and (10). During this period, a parapet wall in random rubble masonry was added to the top of the rampart of sub-period III A. The frequency of occurrences of iron tools and implements indicate considerable use of this metal by this period.

The ceramic tradition is marked by an increase in quantity of black and red ware and corresponding decrease in number of black ware. The red ware, however, remained a dominant pottery type of the assemblage. The most significant change of this repertoire is the absence of white painting on pottery. In addition to the already existing painted designs, new elements are added to the converging comb pattern with serrated ends, designs showing a series of bands intersected at regular intervals, hatched diamonds and some other floral patterns.

Circular structures of the preceding period continue to figure, however, a marked change was noticed with the introduction of single unit of oblong houses. The use of stone as building material increases. Some circular structures have porch like entrances as gleaned from the arrangement of the postholes on the mud floor. The habitation area of this period has yielded three urn burials of secondary nature, a feature unique to the site. However, regular megalithic burials have been reported from the vicinity, at sites like Pachkheri, Mandhal etc (Fig. 1.2).

The introduction of iron has made copper a subordinate metal at the site. Among the iron objects, important types are arrow-heads, chisels, knives, ploughshares, rods, nails etc. Apart from the iron objects, the copper artifacts include rings, antimony rods etc. Artisans working on bone and antler, shell, beads of semi precious stone and terracotta were introduced to the site. A few carnelian etched beads with parallel lines on either ends and barrel shaped beads having zig-zag lines on the surface deserve special mention.

E. PERIOD IV

Period IV, marked by layers (9) to (7) with a deposit of brownish clay represents the beginning of urbanization at the site which is contemporaneous to other urban centres of the Mauryas and the Sungas. Though the site has not reported any diagnostic feature denoting to the Sunga period, however, on the basis of the evidences found at the site of Pauni, located 40 km south–east on the right bank of the Wainganga, the possibility of interaction of the inhabitants of these two urban centres can not be ruled out.

As regards the ceramic assemblage, most of the shapes of the preceding period continued with some new types. The red ware with brown or chocolate slip of the preceding period shows a tendency of discontinuance. Black and red ware continues with some of its shapes having thin sections. Sporadic finds of black ware and black painted red ware are also reported. The diagnostic Northern Black Polished Ware remains a rare commodity at the site.

During this period, an abrupt transformation in the total outlay of the house plan from circular or oval to square or rectangular has been noticed. Stone, bricks and tiles were used very frequently as building material while lateritic soil and clay were used as mortar. The houses made either of baked brick or stone had lateritic gravel lining at the base or foundation. An interesting evidence of a well made of

Pl. 3.1: A view of cutting across the habitational layers, Tr. No. G9/1, ADM-1
voussoir type of burnt bricks with a diameter of 1.10 m, having fifty four courses, dug into the natural soil has been noticed (Pl. 6.11).

The outstanding antiquarian yields from these levels are punch marked coins and a few stone implements of household use like querns, pounders, etc., many of them showing a smooth and polished surface, akin to the typical Mauryan polish. Moreover, there are tools of offence and defence made of iron and other small ornamental articles like plain and etched beads, pendants, rings, bangles, of copper and semi precious stones. Smithery continues to remain a regular occupation. Besides bone, ivory has also been introduced to the site. Terracotta figurines include “Ageless Mother Goddess” showing upper Indian connection.

Among the two pot burials, reported from the habitation level, one shows a pot within a pot type wherein a miniature bowl was kept at the base of a vase in upright position. The other specimen of burial shows a vase surmounted by a stone slab, serving as capstone. In both the burial types, there are ash and charcoal, and also a split bone in case of the burial with capstone.

**F. PERIOD V**

Period V, represented by layers (6) to (1) upwards, consists of one compositional class of clay of medium to hard in compactness, dark brown to black in colour. But the numismatic data obtained from this horizon further subdivides the period as the Bhadrugas, the Mitras, the Satavahanas, and the Senapati and Maharathi.

The ceramic industry of this period shows an emergence of a few new wares and some intricate decorative wares. Barring the large storage jars and vases, majority of the shapes have been formed over fast wheel. Besides a few black and red ware varieties, the wares noted are (i) coarse fabric, gritty, micaceous red ware with self slip, (ii) coarse fabric red ware with red or grey slip, (iii) medium fabric red and dull red wares of red, brown and chocolate slip, (iv) fine fabric polished red ware, (v) fine fabric kaolin ware, and (vi) fine fabric unslipped red ware.

The decorative pottery assemblage of this period has been noted on wide range of wares and shapes. Typo-technologically, the pottery types can be broadly grouped in to (i) stamped, (ii) incised, (iii) appliqué, (iv) corded, (v) perforated, and (vi) cut ware.

Besides exclusive pottery types, the site has yielded beautiful examples of lathe-turned stoneware, fashioned out of soapstone and steatite. These include ornate caskets, bowls, lids, dishes, etc., the size ranging from small to medium.

The structures reported from this period are rectangular, square, elliptical and circular on plan and made of stone and brick. Among the structures, mention may be made of a rectangular house complex of stone and a circular well. The well is made of wedge shaped burnt bricks set in mud mortar. There are seventy six courses laid deep into the natural soil. The well is provided with shade as it is evident from the postholes cut into the brick pavement around the circumference of the well (Pl. 6.54).

A good number of terracotta ring wells with a maximum of twenty three and a minimum of seven rings have been exposed at the site. The rectangular houses at the site have series of two, three and four rooms in the same alignments; at times opening into veranda, some times in courtyard and occasionally in lanes.

Among the house complexes, two have been identified as houses of the ‘bead-makers’ wherefrom artifacts like bead polishers bearing grooves, finished and unfinished beads of semiprecious stones are found. In one of these houses, a red ware
A basin containing ash and charcoal has been found *in situ* which was perhaps used as a furnace in the process of bead making. Some of the house complexes have hearths located either in the courtyard or in a room.

There are hosts of important findings like cast coins of Taxila type, terracotta coin moulds, simple moulds for ornaments or Roman silver coins, lead portrait coins of the Satavahanas etc. Specimens of terracotta figurines of human and animal, both of handmade and double mould varieties have been reported. Apart from a few fragments of kaolin figurine, the site has reported a number of terracotta human figurines depicting native and outlandish facial features.
IV 

CHRONOLOGY

A. THE SETTING

Ever since the discovery of Chalcolithic horizons at Jorwe (1950) and Nasik1 (1950-51) in the upper Deccan, efforts have been made at Bahal2, Tekwada3, Prakash4, Nevasa5, Daimabad6, Savalda7, Bahurupa8, Chandoli9, and Inamgaon10 in understanding the stratigraphy and chronological position of the Chalcolithic levels vis-à-vis pre Mauryan levels. It is now believed that the people of the Malwa culture would have arrived in the upper Deccan around 1550 BCE. But, when we glance at the Vidarbha region, there is hardly any chronological data comparable to the upper western Deccan even from the Chalcolithic site of Tuljapur Garhi11 in district Amravati, which claimed to have reported characteristic painted pottery types of Malwa and Jorwe origin. The material culture associated with the region has reported Megalithic burials and habitation from the excavations at Junapani12, Mahurjhari13, Takalghat-Khap14, Naikund15. The 14C dates available for the Vidarbha Megaliths range from 614 ± 105 BCE to say 450 BCE. However, some calibrated dates published from Naikunda and Takalghat-Khap have placed an early beginning of iron at these sites to circa 800 BCE. It has further been assumed that the excavated habitation sites like Paunar, Kaundinyapura and Arni of Vidarbha are characterised by the Megalithic black and red ware and iron, and hence the 'first' occupants in the region were the Megalithic people. This analogy has no compatibility when the findings at Tuljapur Garhi are taken into account.

Against these chronological settings, the scientific and other primary data obtained in a stratified context at Adam have completely rationalized the chronological framework of the archaeology of the Wardha-Wainganaga valley of the Vidarbha region. The 14C samples obtained from various levels have contributed in building absolute chronology and hence assisted in drawing logical conclusions. The 14C dates provided by the Physical Research Laboratory, Ahmadabad16 and its calibration carried out at the Quaternary Isotope Lab of the University of Washington17 under the scheme of Radiocarbon Calibration Program REV 4.1.2 have been tabulated in the following pages. Three carbon samples out of which two (PRL No. 1368 and 1369) collected from the pre-defence horizon and one (PRL No. 1361) from the layer striking the defence (Fig. 4.1) are of vital interest in rationalizing absolute chronology of the region (Pl. No. 4.1).

B. PERIOD I

The site has reported five cultural periods, out of which, period I has conventionally been termed as Mesolithic as the deposit is represented by aceramic microlithic assemblage and stratigraphically, preceding to the cultural levels associated with the emergence of the first farmers. Efforts were made to obtain

2. IAR 1956-57, p.17.
3. Ibid., p.18.
4. B.K. Thapar, Excavations at Prakash, AI, 21, pp. 5-167.
7. IAR 1956-59, p. 24; IAR 1959-60, p. 34.
8. Ibid., p. 22-24; Ibid., p.34.
Fig. 4.1: Marked locations of collection of carbon samples from the pre-defence and defence layers.
scientific date of this horizon by sending soil samples to A.K. Sanghvi, (PRL, Ahmadabad), but due to his preoccupation, the samples could not be taken up for assaying; thus the only alternative was to take the shelter of relative dating (Table-1).

<table>
<thead>
<tr>
<th>Site name</th>
<th>Lab. No.</th>
<th>14C date</th>
<th>Calibrated date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adamgarh TF 120</td>
<td>5505 ± 129</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Adamgarh TF 116</td>
<td>900 ± 108</td>
<td>1105 BCE - 805 BCE</td>
<td></td>
</tr>
<tr>
<td>Bagor TF 786</td>
<td>4480 ± 206</td>
<td>5365 BCE - 4965 BCE</td>
<td></td>
</tr>
<tr>
<td>Bagor TF 1005/6</td>
<td>2115 ± 93</td>
<td>2650 BCE - 2315 BCE</td>
<td></td>
</tr>
<tr>
<td>Bhimbetka PRL 50</td>
<td>4085 ± 113</td>
<td>4950 BCE - 4560 BCE</td>
<td></td>
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<tr>
<td>Bhimbetka PRL 318</td>
<td>1715 ± 103</td>
<td>2135 BCE - 1755 BCE</td>
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</tr>
<tr>
<td>Langhnaj TF 744</td>
<td>2040 ± 108</td>
<td>2550 BCE - 2185 BCE</td>
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</tr>
<tr>
<td>Mahadaha BS 136</td>
<td>2180 ± 124</td>
<td>2675 BCE - 2515 BCE</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.1: Showing 14C dates of Mesolithic sites

In this regard, while comparing the available 14C dates (Table 4.1) of a few important Mesolithic sites, it appears that the Mesolithic horizon of Adam may tentatively be placed within a time frame, ranging from 5000 BCE to 2000 BCE. Incidentally, like the other Mesolithic sites, the assemblage at Adam is free from pottery and stratigraphically precedes the farming based horizons. Relatively it appears that the Mesolithic period falls in mid-Holocene time bracket and the climate was sub-humid to semi-arid with favourable amount of monsoonal precipitation.

C. PERIOD II

The scientific dates have been obtained for period II and sub-period III A and III B. Here, two pronged efforts have been made to rationalize the date of the first farmers of Vidarbha and bring it at par with Chalcolithic cultures of the upper western Deccan.

Layers (17) and (16) represents period II (Vidarbha Chalcolithic). The two 14C calibrated determinations obtained from the Physical Research Laboratory, Ahmadabad and its calibration carried out at the Quaternary Isotope Lab of the University of Washington are tabulated below (Table 4.2).

It is quite clear from the assaying of the above samples that the first farming activities had started in last quarter of the 2nd millennium BCE in period II, termed as Vidarbha Chalcolithic. These calibrated dates are relatively on higher side as compared to the dates obtained from other Chalcolithic sites of Deccan.

Apart from 14C determinations, animal bone samples from layers (17) and (16) were sent to the Deccan College, Post Graduate Research Institute, Pune for ascertaining the relative dating by calculating the fluorine-phosphate ratio. The results of 100 F/P$_2$O$_5$ of animal bone samples from Inamgaon and Daimabad, when compared with the findings at Adam, it was noted that the samples are indicating higher ratio than those reported from the sites of western Maharashtra. Scientists consider that higher 100F/P$_2$O$_5$ indicate earlier date of the sample. However, perception wise, the difference in F and P ratio is due to moisture content in the soil. It is responsible for the dissolution and transport of fluorine to bone. Usually in dry condition, the process of dissolution and transport of fluorine is low. It is likely that the low absorption of fluorine in the bones of the Chalcolithic levels of upper Deccan was due to dry climate. If it is so, does it mean that the higher absorption of fluorine

in the bones obtained from the Chalcolithic horizon at Adam indicate wet climate in the region? The fluorine-phosphate ratio of the bone samples from Inamgaon, Daimabad and Adam has been tabulated in Table no. 4.3, 4.4, 4.5 and 4.6.

Evidently, 14C dates supported by fluorine-phosphate ratio analysis have helped in assigning a definite chronology for Vidarbha Chalcolithic, ranging from circa 1750 to 1425 BCE, which may indicate an early beginning of the Chalcolithic cultures in Vidarbha which coincides with the chronology arrived in other parts of Maharashtra¹ (Table 4.2).

**D. PERIOD III**

The site has witnessed an early introduction of iron technology in sub-period III A, represented by layers (15) to (12). Simultaneously, the concept of building of rampart around the settlement also emerged, which was subsequently strengthened by a battlement in sub-period III B, represented by layers (11) and (10).

The 14C determinations obtained from the PRL (Ahmadabad) and calibrated dates obtained from QIL (Washington) for both the sub-periods are tabulated below in Table 4.7.

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### Table 4.2 ADAM C.14 dates (Period II), Vidarbha Chalcolithic

<table>
<thead>
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<th>PRL NO.</th>
<th>Locus</th>
<th>Depth</th>
<th>Layer</th>
<th>PRL (Ahmadabad) 14C date (BP)</th>
<th>QIL (Washington) Radiocarbon Age in BP</th>
<th>QIL (Washington) Cal. Dates in BCE</th>
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<tr>
<td>1368</td>
<td>S5/1</td>
<td>6.80 m</td>
<td>16</td>
<td>3460 ± 90</td>
<td>3360 ± 90</td>
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<tr>
<td>1369</td>
<td>S5/1</td>
<td>7.12 m</td>
<td>17</td>
<td>3230 ± 310</td>
<td>3140 ± 320</td>
<td>1745 – 1412</td>
</tr>
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</table>

### Table 4.3 INAMGAON\(^1\) Animal bone samples (Malwa)

<table>
<thead>
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<th>Sample No.</th>
<th>Culture</th>
<th>Layer</th>
<th>Trench</th>
<th>%F</th>
<th>%P</th>
<th>100F/P(_{O_2})</th>
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<td>C3</td>
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### Table 4.4 INAMGAON\(^2\) Human bone samples (Malwa)

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Culture</th>
<th>Layer</th>
<th>Trench</th>
<th>%F</th>
<th>%P</th>
<th>100F/P(_{O_2})</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>Malwa</td>
<td>12</td>
<td>C1O</td>
<td>0.033</td>
<td>12.81</td>
<td>0.116</td>
</tr>
<tr>
<td>59</td>
<td>do</td>
<td>13</td>
<td>D6</td>
<td>0.023</td>
<td>10.31</td>
<td>0.097</td>
</tr>
<tr>
<td>60</td>
<td>do</td>
<td>15</td>
<td>E5</td>
<td>0.042</td>
<td>13.12</td>
<td>0.140</td>
</tr>
</tbody>
</table>

### Table 4.5 DAIMABAD\(^3\) Animal bone samples (Malwa)

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Culture</th>
<th>Layer</th>
<th>Trench</th>
<th>%F</th>
<th>%P</th>
<th>100F/P(_{O_2})</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Malwa</td>
<td>6</td>
<td>ZD 62</td>
<td>0.038</td>
<td>11.88</td>
<td>0.187</td>
</tr>
<tr>
<td>7</td>
<td>do</td>
<td>7</td>
<td>&quot;</td>
<td>0.046</td>
<td>12.25</td>
<td>0.164</td>
</tr>
<tr>
<td>8</td>
<td>do</td>
<td>8</td>
<td>&quot;</td>
<td>0.038</td>
<td>13.12</td>
<td>0.126</td>
</tr>
</tbody>
</table>

### Table 4.6 ADAM\(^4\) Animal bone samples (Vidarbha Chalcolithic)

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Culture</th>
<th>Layer</th>
<th>Trench</th>
<th>%F</th>
<th>%P</th>
<th>100F/P(_{O_2})</th>
</tr>
</thead>
<tbody>
<tr>
<td>335</td>
<td>Vidarbha Chalcolithic</td>
<td>16</td>
<td>S5/1</td>
<td>0.204</td>
<td>14.37</td>
<td>0.620</td>
</tr>
<tr>
<td>336</td>
<td>Do</td>
<td>17</td>
<td>Do</td>
<td>0.118</td>
<td>12.50</td>
<td>0.412</td>
</tr>
</tbody>
</table>

### Table 4.7: ADAM C.14 dates from Sub-period IIIA and IIIB (Iron Using Strata)

<table>
<thead>
<tr>
<th>PRL NO.</th>
<th>Locus</th>
<th>Depth</th>
<th>Layer</th>
<th>PRL (Ahmadabad) 14C date (BP)</th>
<th>QIL (Washington) Radiocarbon Age in BP</th>
<th>QIL (Washington) Cal. Dates in BCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1361</td>
<td>S5/2</td>
<td>7.25m</td>
<td>(11) III B</td>
<td>3030 ± 160</td>
<td>2940 ± 160</td>
<td>1393 – 917</td>
</tr>
<tr>
<td>1452</td>
<td>ZA5</td>
<td>4.00m</td>
<td>(12) III A</td>
<td>3170 ± 120</td>
<td>3080 ± 120</td>
<td>1490 – 1131</td>
</tr>
<tr>
<td>1458</td>
<td>ZA5</td>
<td>5.29m</td>
<td>(14) III A</td>
<td>2860 ± 120</td>
<td>2780 ± 120</td>
<td>1107 – 811</td>
</tr>
<tr>
<td>1456</td>
<td>L8/3</td>
<td>4.95m</td>
<td>(15) III A</td>
<td>2900 ± 100</td>
<td>2820 ± 100</td>
<td>1185 – 834</td>
</tr>
</tbody>
</table>

2. *Ibid*, Table 16.5b.
4. Dr. Anupama A. Kshirsagar of the Deccan College has kindly obliged with this result.
Table 4.8: Comparative 14C dates in BCE from the Megalithic sites of Vidarbha

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of site</th>
<th>Lab. No.</th>
<th>Date based on half life value of radioactive carbon 5730±40 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bhagimohari</td>
<td>BS. 537</td>
<td>690 ± 100 BCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS. 536</td>
<td>750 ± 100 BCE</td>
</tr>
<tr>
<td>2.</td>
<td>Khairwada</td>
<td>BS. 394</td>
<td>510 ± 100 BCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS. 393</td>
<td>420 ± 100 BCE</td>
</tr>
<tr>
<td>3.</td>
<td>Naikund</td>
<td>BS. 94</td>
<td>620 ±108 BCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS. 92</td>
<td>580 ± 103 BCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS. 265</td>
<td>690 ± 110 BCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BS. 233</td>
<td>300 ± 100 BCE</td>
</tr>
<tr>
<td>4.</td>
<td>Takalghat</td>
<td>TF-783</td>
<td>620 ± 103 BCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TF-784</td>
<td>560 ± 98 BCE</td>
</tr>
</tbody>
</table>

Table 4.9 ADAM Animal bone samples (Sub-period III A)

<table>
<thead>
<tr>
<th>Sample</th>
<th>Trench</th>
<th>Layer</th>
<th>%F</th>
<th>%P</th>
<th>100F/P2O5</th>
</tr>
</thead>
<tbody>
<tr>
<td>332</td>
<td>B1/2</td>
<td>(13) IIIA</td>
<td>0.228</td>
<td>13.12</td>
<td>0.758</td>
</tr>
<tr>
<td>333</td>
<td>B1/2</td>
<td>(14) IIIA</td>
<td>0.109</td>
<td>13.0</td>
<td>0.366</td>
</tr>
<tr>
<td>334</td>
<td>B1/2</td>
<td>(15) IIIA</td>
<td>0.119</td>
<td>9.37</td>
<td>0.554</td>
</tr>
</tbody>
</table>

Table 4.10 ADAM Animal bone samples (Sub-period III B)

<table>
<thead>
<tr>
<th>Sample</th>
<th>Trench</th>
<th>Layer</th>
<th>%F</th>
<th>%P</th>
<th>100F/P2O5</th>
</tr>
</thead>
<tbody>
<tr>
<td>329</td>
<td>B1/2</td>
<td>(10)</td>
<td>0.076</td>
<td>9.06</td>
<td>0.366</td>
</tr>
<tr>
<td>330</td>
<td>S5/1</td>
<td>(11)</td>
<td>0.085</td>
<td>11.87</td>
<td>0.313</td>
</tr>
</tbody>
</table>

Table 4.11 NAIKUND BONES FROM HABITATION AREA

<table>
<thead>
<tr>
<th>Sample</th>
<th>Trench</th>
<th>Layer</th>
<th>%F</th>
<th>%P</th>
<th>100F/P2O5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11</td>
<td>(2)</td>
<td>0.049</td>
<td>9.37</td>
<td>0.228</td>
</tr>
<tr>
<td>2.</td>
<td>&quot;</td>
<td>(4)</td>
<td>0.057</td>
<td>10.97</td>
<td>0.227</td>
</tr>
<tr>
<td>3.</td>
<td>&quot;</td>
<td>(6)</td>
<td>0.032</td>
<td>9.5</td>
<td>0.147</td>
</tr>
</tbody>
</table>

Table 4.12 NAIKUND BONES FROM BURIAL

<table>
<thead>
<tr>
<th>Sample</th>
<th>Trench</th>
<th>Layer</th>
<th>%F</th>
<th>%P</th>
<th>100F/P2O5</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Location IV, Meg. 13, NW</td>
<td>--</td>
<td>0.281</td>
<td>10.5</td>
<td>1.169</td>
</tr>
<tr>
<td>7.</td>
<td>--</td>
<td>--</td>
<td>0.266</td>
<td>10.0</td>
<td>1.161</td>
</tr>
</tbody>
</table>

Table 4.13 ADAM C.14 DATES FROM PERIOD IV

<table>
<thead>
<tr>
<th>PRL NO.</th>
<th>Locus</th>
<th>Depth</th>
<th>Layer</th>
<th>PRL (Ahmadabad) 14C date (BP)</th>
<th>Radiocarbon dates deduction in BCE (Base year 1950)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1672</td>
<td>H18/4</td>
<td>2.6 m</td>
<td>9</td>
<td>2650 ± 70</td>
<td>700 BCE</td>
</tr>
<tr>
<td>1669</td>
<td>F16/2</td>
<td>1.7 m</td>
<td>7</td>
<td>2600 ± 150</td>
<td>650 BCE</td>
</tr>
</tbody>
</table>
There are three dates from the sub-period IIIA, the earliest being 1490 BCE; other two dates are 1185 BCE and 1107 BCE. However, there is one date from sub-period III B dated to 1393 BCE. Under the circumstances there is no hesitation in placing sub-period III A to the time bracket of circa 1400 BCE to 1100 BCE while the sub-period III B may safely be placed to circa 1100 BCE to 800/700 BCE. The available calibrated dates from this site have considerably changed the perception of the beginning of iron in Vidarbha when compared to the dates of other sites located in the Wardha-Wainganga valley (Table 4.8).

The set of dates tabulated at Table no. 4.8 indicate a late introduction of Megalithic burial structures in the Wardha-Wainganga valley in circa 800/700 BCE which is coterminous with the terminal date of period III B at Adam. Apart from this, the date of introduction of iron technology is much earlier than the introduction of Megalithic burials.

Apart from the result of the 14C dates, the fluorine-phosphate ratio test carried out on the bone samples collected from the sub-period III A and III B at Adam (Table 4.9 and 4.10) also support the time frame assigned to both the phases through 14C determinants. The results obtained from the habitation and burial sites at Naikund shown in Table 4.11 and 4.12 may be compared with the results from the present site shown in Table 4.13.

It is quite evident from these tables that the 100F/P2O5 obtained from the sub-period III A and III B at Adam are much on higher side as compared to the data obtained from Naikund. Likewise, the 14C dates from Naikund and Takalghat and other sites (Table 4.8) are younger as compared to the calibrated dates obtained from this site.

growth of an urban phase at the site. The strategic location of Adam on the ancient trade route seems to have served as one of the factors in the development of the site as an important exchange centre of Vidarbha.

Another important contribution of the site is the rampart belonging to sub-period III A superimposed by a rubble parapet wall of sub-period III B. The emergence of defence mechanism in such an early stage, assignable to the middle of the second millennium BCE is a rare phenomenon in the archaeology of South Asia where the 14C samples collected from the inner toe-line have been dated to 1393 BCE after calibration (see Table 4.7).

E. PERIOD IV

In the case of period IV, represented by layers (9), (8) and (7), there are two 14C dates obtained from PRL (Ahmadabad) which has been appended in table 4.13 which are not calibrated. These dates hold good for the lower levels of this horizon as it corresponds well with the beginning of Mahajanapada period. At the same time, it matches well with the dates of the end of the preceding sub-period III B. For the later half of the period, there are numismatic data to support the chronology comparable to the Mauryan period. Besides the occurrences of Northern Black Polished Ware and other associated pottery types, there are diagnostic finds associated with the Mauryan period datable to circa 350 BCE to 100 BCE. There are two Mahakoshala type silver punch marked coins retrieved from the rampart filling of this period which also support in arriving at this chronological framework.

During this period, the site has witnessed enlargement of the rampart, following the alignment of the proceeding period. The house plan has undergone complete transformation from circular to square and rectangular.

F. PERIOD V

Period V is represented by the layers (6) to (1) which are further sub-classified on the basis of numismatic data and seals and sealings to the Bhadras, Mitras, Satavahanas and Mahasenapat/Maharathi, chronologically assignable to circa 150 BCE to 250 CE. The period has witnessed further enlargement of the rampart and the moat. Lower layers (6) and (5) yielded coins of the local overlords, Bhadras and Mitras of pre-Satavahana times. Stratified occurrences of coins of Bhadras and Mitras have solved the myth of their existence prior to the Satavahanas in the chronological framework in the Wardha-Wainganga valley. Coins of early Satavahanas are found in layer (4) which remained in circulation up to layer (1) and those belonging to the later Satavahanas are found from the layer (3) onwards. From this layer onwards the site has reported coins of a Mahasenapat/Maharathi who later issued his coins in the capacity of a Maharathi. Some Kshatrapa coins are also reported from the upper levels attributed to year 145 i.e. 223 CE.

Among the diagnostic ceramic types noted is Red Polished Ware (RPW), besides kaolin ware and associated decorated pottery types. However, the Russet Coated Painted (Andhra) Ware found at sites located in the Godavari plain, have remained conspicuously absent, thereby suggesting its circulation confined to the Godavari plain and not extending to the contemporary sites of the Wardha-Wainganga valley. Other diagnostic finds of the period include double moulded terracotta, rouletted ware, kaolin terracotta, Roman coins and other native coins.

The chronology at ADM-2, a stupa mound, has been arrived on the basis of numismatic finds of Pulumavi and Maharathi assignable to the later Satavahana period.
THE CUTTINGS

A. INTRODUCTION

The overall makeup and spread of the archaeological remains and its environs are described in chapter II. As noted earlier, the site is comprised of two mounds namely ADM-1 and ADM-2. ADM-1 possesses three features of the surface formation viz. (i) the habitation, (ii) the rampart and (iii) the moat. ADM-2, the stupa mound lies to the east of ADM-1. At both these mounds, the trenches have been laid in grid system. It is considered with a view to extend the operation in any direction in order to obtain better results. The field work carried out during 1988-89, 1989-90, 1990-91 and 1991-92 has thrown significant light on the cultural sequence and subsistence pattern pertaining to the successive habitation at the site. The key plan indicates the excavated trenches of each field season hatched differently (Fig. 5.1). In each field season, certain objectives and priorities were determined and accordingly the excavations were subjected to. The accompanying bar charts show the layer wise excavation conducted and the depths realised in each of the trenches. The year wise bar charts show that in 1988-89 (Fig. 5.2) limited numbers of trenches were excavated, while in 1989-90 (Fig. 5.3), the number of trenches increased. During 1990-91 (Fig. 5.4), maximum numbers of trenches were exposed as the excavations were continued for a longer period of time. Finally, in 1991-92 (Fig. 5.5), the excavation was restricted to less number of trenches as compared to the previous year.

B. GRID LAYOUT: ADM-1

The key plan of ADM-1 mound shows that the entire area was laid into a grid network, each measuring 10 m x 10 m. As usual, the mound was sub-divided into 4 zones keeping in view the cardinal directions. The centre of the mound has roughly been fixed keeping in view the surface feature of the habitation. The central peg was numbered as A1. The trenches of A1 to Z1 were laid in the south-eastern zone of the mound. Similarly, in clockwise order, the trenches of X series bearing XA1 to XH1 were laid in the south-western zone, while the Y series trenches in the north-western zone and the Z series in the north-eastern zone. In each case the peg affixed to the north-western corner of the trench determined the number of trench as well as treated as reference peg for 3-Dimensional measurements.

C. GRID LAYOUT: ADM-2

The hemispherical mound of ADM-2 was laid in the format of area excavation with a view to correlate the stupa with other adjoining ancillary structures. But, the trenches were not laid out in the manner it was laid at ADM-1 by fixing the peg in the centre of the mound. Here, the peg number A1 was pegged in the north-western corner of the mound. As the idea was to expose the southern half of the mound, the complex method was not adopted. The peak of the mound was of utmost consideration as it was showing the sign of a structured base of a harmika embellished with a ring stone in the centre. The trenches laid across the southern half of the mound were numbered as C3, C4 and C5. The mound was subjected to excavation during the first field season, 1988-89 (Pl. 5.5) which exposed hemispherical profile of the stupa and structures of stone and burnt bricks (Pl. 5.6).

The year wise details of the cuttings at ADM-1 are as follows:

D. CUTTINGS OF 1988-89 (Fig. 5.2)

As noted above, the excavation at ADM-1 and ADM-2 were taken up simultaneously in the year 1988-89. At ADM-1, the work was taken up in all the three localities bearing the remnants of the
Fig. 5.1: Key plan of excavated trenches at Adam - 1988-92
Pl. 5.1: General view of the cuttings in the centre of habitation

Pl. 5.2: General view of the cuttings across the rampart and moat
habitation (Pl. 5.1), rampart and moat (Pl. 5.2 & 5.3). The major objectives were (i) to study the cultural sequence and the chronology of the site, (ii) its interrelationship if any, with other contemporary cultures of the region, (iii) to study the nature and details of the construction of the stupa, rampart and moat, and (iv) to understand the settlement pattern within the rampart.

The trenches subjected to excavation in the habitation area of ADM-1 are A1 to D1, located roughly in the central part, showing considerable thickness of habitational deposits, covering an area of 40 m x 10 m. Similarly, trench numbers Q5 to Z5 were laid across the rampart and the moat of which the first two quadrants in the northern alignment were taken up for excavation. The total length of the area opened was 100 m (Pl. 5.2).

**E. CUTTINGS OF 1989-90 (Fig. 5.3)**

The objectives for the second field season were (i) re-ascertaining the chronology noticed during the first season’s work, (ii) re-examining the phases of fortification and its relationship with the habitation inside, (iii) the nature and formation of the moat around the rampart and, (iv) study of the details regarding the structural and economic activities at the site. Of the seven cuttings in the season, two were laid across the moat; one each in the north and the south, four inside the rampart, and one across the rampart extending into the moat in the east. The trenches on the northern side of the moat were ZE15 and ZE14. Among these two, the fourth quadrant of the former and the first and fourth quadrants of the latter were taken up for excavations, extending over a length of 15 m. These cuttings have helped in determining the northern extent of the moat. Similarly, the cuttings of trench number A19 to A25 in the eastern part of the moat revealed channel-like features in the lateritic bed of the moat (Pl. 5.7). The cuttings on the northern side of the moat were limited to know the feature towards the northern limit which also revealed channel-like elements (Pl. 5.4).

Within the habitation area, the trench numbers ZF4 to ZG5 situated in the north-eastern side and trench numbers YA5, ZA5, YA6, ZB5 and ZB6, ZC5, ZC6, located in the northern portion were taken up for excavation. The natural soil could be touched in ZB5. In trench numbers XB2 and XC2, located in the western portion were also excavated up to the depth of natural soil which provided complete chronological sequence of the site as reported earlier. In the south-eastern part of the habitation, N5, N6, O5, O6, P5, P6 were taken up for digging.

**F. CUTTINGS OF 1990-91 (Fig. 5.4)**

The objectives in the penultimate field season were (i) to understand the settlement pattern, economic activities and material culture of period V and (ii) careful observations on the archaeological data of the preceding cultural horizons by reopening some trenches filled up earlier. No work was undertaken in the moat area in this season. Cuttings were undertaken mostly in the habitation area and only one cutting was taken across the rampart in the south-eastern portion. The excavations during the season in the rampart and adjoining area were confined to the third and fourth quadrants of M14, N14, O14, P14, Q14 and R14 (60 m x 5 m).

Within the habitation, the cuttings taken up were the third and fourth quadrants of ZF9, ZG9 and ZH9 (30 m x 5 m). The complete trenches taken up were ZF6 to ZF8, ZG6 to ZG8, ZH1 to ZH8, ZJ1, ZJ2, ZK1, ZK2, H1 to H3, J1 to J3, K1 to K3, all adjoining trenches located in the central and northern portions of the habitation area (Pl. 5.8). In the western portion of the habitation, the trenches excavated were XB3 to XB5, YB3 to YB4, XA3 to XA5, YA3 and YA4, A3 to A6, B3 to B6 and C3 to C6.
Fig. 5.2: Bar chart showing the cuttings of the year 1988-89
Pl. 5.3 : A view of ditch towards the eastern arm of moat, Period-III

Pl. 5.4 : A view of ditch towards the northern arm of moat, Period-V
The excavated trenches were M5 to M7, N6 and N7, O6 to O10, K7 and L8 in the eastern portion; G7 and G8, F8 located in south-central portion; F13 to F15, G13 to G15, H13, J10, H14 and H15 in the southern portion; and ZB1 to ZB4, YC3 and YC4, ZA3 and ZA4, YA3 and YA4, YB2 and YB4 in the north-central-eastern portion of the habitation.

G. CUTTINGS OF 1991-92 (Fig. 5.5)

In the last field season, the excavations were taken up with limited objectives, namely — (i) reconfirming the various phases of restoration in the rampart and its stratigraphical correlation with the inner habitation, (ii) re-ascertaining the nature and extant of the rampart of sub-periods III A and III B, (iii) determining the various phases in period V on the basis of Numismatic data and (iv) collecting further data on the settlement pattern and economic activities of period V by way of exposing more structural complexes within the area enclosed by the rampart. Keeping in view the above objectives, the following trenches were subjected to excavations. A7 to F7, first two quadrants of A8 which are the central portion of the settlement, F16, G16, second quadrant of F17 were taken up in the southern portion of the habitation (Pl. 5.9).

In the southern sector, trenches were laid across the rampart and the moat. The first and fourth quadrants of H16, H17, H18 and first two quadrants of G17 were subjected to excavations. Further south in the moat, the trenches excavated were first and fourth quadrants of H19 to H22 (Pl. 5.10).

After having dealt briefly the objectives vis-a-vis the lay out of the trenches during the four field seasons, the principle components observed on the surface and in the cuttings at ADM-1 and ADM-2 are described below:

H. HABITATION (ADM-1)

During the exploratory survey, it was noted that the habitation mound represents a multi-layered occupation at the site, deserving large-scale horizontal excavation. The contour survey of the mound and its surrounding areas reveals surface features like table top plains, slopes, gully, depressions and openings in the land forms. These surface features are of major archaeological consequences in understanding the process of site formation. The multi-culture nature of the site warranted observation of diagnostic traits of each cultural period. Though the task was enormous, rigorous efforts have been made to accomplish the target. The determined attempts have unfolded a multi-layered sequence of cultural occupations, earlier unknown to the region of the Wardha-Wainganga valley.

The observation on the site formation has helped in formulating the strategy of the first field season (1988-89). Accordingly, the trenches were laid towards the centre of the mound, relatively at a lower level in the eastward slope, merging with shallow depression of truncated street. The natural soil consisting of reddish lateritic gravels could be reached in trenches B1 and C1.

Here, fourteen occupational layers could be reckoned with, wherein except the microlithic assemblage of period I, remaining occupational layers occurring uninterruptedly from the Chalcolithic horizon (period II) to the Sahavahanas could be identified. However, the assemblage of period I was noticed in S5 and T5, resting over the natural soil of lateritic gravel.

In the construction, shale stone and lateritic gravels have been used since the

1. For Contour survey, the bench mark was brought from the Kuchi Railway station, located 10 km northwest of the site.
Fig. 5.3: Bar chart showing the cuttings of the year 1989-90.
The Cuttings

Pl. 5.5: General view of the cuttings across the stupa mound, ADM-2

Pl. 5.6: Details of cuttings at stupa mound (ADM-2) showing structures of stone and burnt bricks
formation of habitation at the site. These gravels have been used in the treatment of floors, construction of successive ramparts and also as mortar. Use of burnt bricks has been surfaced in the construction of well and sparingly sun dried bricks in the dwellings in period IV. Limited use of burnt bricks has been noticed in period V; however, the overall preference of shale stone and murrum as building material was noticed from sub-period III A onwards. The reason behind the preference of shale stone and murrum over bricks was due to its occurrences in geological formations below the layers of lateritic gravels in the surroundings of the site.

The cuttings have also reported burials of primary and secondary inhumations starting from sub-period III B. Typologically, the burials of secondary inhumations may be classified (i) single urn laid in as under : upright position (ii) double urns laid side by side, (iii) Single lid or basin laid upside down position, (iv) pot within pot laid in vertical order, (V) single urn laid in a terracotta ring chamber, (vi) single urn placed over a thick rim base and (vii) battered pot burial.

The primary inhumations have been reported from period V which are classified as (i) extended (ii) flexed and (iii) seated variety.

In case of pot-burials, bowls and vases are seen laid independently to form the burial chamber inside a pit of required shape and size. The bowls of red ware with featureless rim, oblique sides and string cut base are used frequently, at times placed upside down with stone lining and at times one covering the other, or one above the other in inverted position. Another variant noticed is that of vases of varying shapes and sizes. A wide-mouthed vase with out turned rim and slight carination is noticed in a circular pit kept in upright position; which is covered with a chamfered base of micaceous red ware, thin in section. The pot contains soiled charcoal bits mixed in earth with fragments of bone. A hopscotch has been found from the pot chamber. Another complete medium sized vase, exterior stamped with tri-ratna motif, has been reported in the chamfered base of a thick micaceous red ware jar; the collared rim of the jar forms a ring around the said pot chamber which contains charcoal bits mixed with earth. A terracotta ring burial excavated at the site contains in the centre, a red ware vase of medium size, completely battered, perhaps for ritualistic reasons. Hopscotch as grave goods has been noticed invariably in all the types of burials.

In the subsequent campaign (1989-90), the natural soil could be touched in XB2, XC2 and ZB5 wherein eighteen occupational layers could be encountered, thereby re-establishing a continuous culture sequence, starting from Mesolithic to the Satavahana times. After determining the culture sequence in the consecutive field seasons, initiative was taken to probe the settlement pattern during the Satavahana times (period V). Consequently, digging in N5, O5, N6, N7, N8 and M8, located in the rain gully, revealed a stretch of forty metre long lane recorded as lane 1 (Fig. 6.15).

The structures (Fig. 6.15). reported from period V are rectangular, square, elliptical and circular on plan. The complex of a rectangular stone (9 x 3.5 m) structure and circular brick well sealed by layer (1) has been exposed completely. The well (dia. 1.10 m) consisting of seventy-six courses cut into the natural soil is built of wedge-shaped bricks in mud mortar. On the north and south sides of the well, traces of post holes and low parapet wall are noticed which supports a low roofed structure over the well. The well is kept open from the east and west sides for the purpose of drawing water. The covered space along the well is paved with same types of bricks (Pl. 6.54). The elliptical structure, on plan consists of central chamber and antechambers on either ends of the apse forming another type of structure. Several circular platform
Fig. 5.4: Bar chart showing the cuttings of the year 1990-91
Pl. 5.7: Cuttings across the moat on southern side, Trench No. A19 to A25, 1991-92
like stone structures within an enclosure have also been noticed. A good number of
terracotta ring wells with a maximum of twenty-three and a minimum of seven rings have been exposed. Interestingly, the latter has a chamfered globular ring base over which six rings of uniform size are stacked (Pl. 6.62).

During 1990-91, an extensive digging operation was launched at the habitation mound with a view to understand the layout of street, lanes and houses. Hence, in majority of the trenches, layers one to five were exposed. The surface features indicate that there are networks of interwoven lanes. None of these lanes indicate any type of surface treatment, while the truncated street show relatively hard surface treated with lateritic gravels. Important houses are constructed parallel to lanes. Such impressive features of settlement pattern have been noticed in A6, B6 and C6. Here, the STR30 and STR28 are seen in alignment separated by a lane no. 3 of seven metre width. The street was exposed up to thirty-five meters in length which ultimately connects to the western gate way. An interesting formation of T-junction in the lane has also been noticed in C6 wherein a lane from south (lane-6) is seen terminating into lane 3. Likewise, lane 5 is noticed in the cuttings of ZF6, ZG6, and ZH6, flanked by STR55 and STR59. Similarly, the main street, running east-west, was exposed in H2, J2, K2, H3, J3 and K3. It shows feeble impression of cart mark. The surface of the street is treated with fine laterite gravel; such surface treatment is not noticed in any of the lanes exposed.

A large number of free built structures, rectangular, square, oval and circular, are encountered from the habitation area, assignable to period V. The rectangular houses have series of two, three and four rooms in a juxtaposed order. A four roomed structure with a verandah in front has a passage across one of the rooms to reach the courtyard, while the remaining three rooms have independent openings in the courtyard. The room on the southern flank has two ring wells, which might have been used as 'privy' or refuse pit as the deposit inside is of pale green soil of compost type. By the side of this room, a brick paved bathing space, connected to a drain terminating into the street in front, has been noticed (Fig. 6.17). Another type of five roomed structure has L-shaped corridor of which four rooms are opening towards courtyard while the fifth has an opening in partially paved courtyard. One of the rooms on the western end is furnished with an in built bench against the southern wall, made of burnt bricks in clay mortar (Fig. 6.20). The combination of three independent structural units facing a common courtyard from the north, south and east sides and an indication of a screen wall with an entrance on the west is an interesting feature. The post holes of different diameter and depth are sunk haphazardly directly over the walls. A few elliptical structures in stone have also been exposed consisting of central chamber and two rooms on either ends. The entrances to these two rooms through central chamber have been structured in staggered manner. This feature is common to all the elliptical structures of period V. A few of the elliptical structures have murrum while some have mud as binding material.

In addition to the stone structures, some burnt brick structures are also noted. A four roomed rectangular brick structure (approx. 23 x 5 m) of twenty-two courses out of which, fifteen courses of the eastern flank of the wall are seen collapsed towards the inner part. It has single brick (50 x 32 x 8 cm) courses in the 'stretcher' method, laid in mud mortar. In some brick structures tiles are also used for maintaining the level of the courses, while some brick courses are laid over the dressed stone structure. One such structure (6.30 x 5.40 m) serving as an enclosure to four uniformly distributed circular stone platforms has a mixture of stone, brick and tile masonry (Fig. 6.27). A number of such circular platforms
Pl. 5.8: General view of the cuttings in the central and northern portions of the habitation, ADM-1
built with or without enclosure wall are noticed all over the habitation. Tradition of reusing tiles as 'apron' to floor has also been noticed (Pl. 6.29 & Fig. 6.22).

Two circular wells exposed during the season have upper ten to twelve courses in random rubble masonry, while the remaining lower courses, right up to the base are of bricks. In one of the wells, an undressed stone slab with eight grooves towards the longer axis is found in a dislodged position suggesting its use as foothold (Pl. 6.76); originally it was placed over the parapet of the well. Drains built of burnt bricks have been preferred over the rubble ones. Disposal of household refuse through drains are also noticed. At times the drains have been noted terminating either into the soak pits or into the lanes. An example of three domestic drains connected to the main drainage system has also been exposed. The terracotta ring wells have been used as soakage pits, while a few functioned as draw wells and also as silo.

Period V has reported a few structures indicating vocational nature; two of them are recognised as bead maker’s houses, out of which one is located in Qd1 of trench H16. It is rectangular on plan, consist of a cell and an open varandah which yielded two stone blocks, one bearing grooves formed due to constant rubbing of beads and other has glossy finished surface. A few finished and unfinished semiprecious stone beads are also picked up from the floor, close to these grooved blocks identified as bead polisher. The other bead maker’s house is located in F7. It is elliptical on plan with three compartments; the central one has the main entrance in which the flanking one distributed on the either side of the apse, are opening. Artifacts like bead polisher, beads and its raw materials are also recovered from the floor of the house. A red ware basin perhaps used as furnace chamber containing ash and charcoal is noticed in situ against the partition wall of the central compartment (Pl. 6.27 & Fig. 6.21). At a later stage, four circular platforms were added over the existing elliptical structure, thereby distorting its ground plan. A tank was also added to south side of the back wall (Pl. 6.28).

Trench no. F8, F9, F10 and G9 reveal a structural complex which include a tile paved courtyard with U shaped and murrum lined chulhas, a three roomed structure (8.7 x 6 m) with rooms opening in the corridor, and behind it, a shale stone pavement, yielding horse’s outfits like iron stirrup, horseshoe and rings, purporting its use as stable (Fig. 6.22). On the southern side of the three roomed structure, a terracotta ring well is also noticed encompassed with a burnt brick platform (jagati) made in recessed order. The bricks used are voussoir shaped (36 x 20 x 8 cm) variety (Fig. 6.22). Another structure (14.7 x 8.2 m) of complex nature, in A7 and B7, reveal segmented corridors on either sides of the longer axis with cells in between, of varying dimensions and a portion of it has tiled floor. The purpose of some of the tiny cells remains enigmatic. The burnt bricks are laid over the courses of random rubble. The two types of bricks measure 50 x 28 x 7 cm and 40 x 28 x 7 cm. Similar features are noticed in other structures too. In Qd. 4 of trench E9, northern portion of an elliptical structure is exposed which shows usage of voussoir shaped burnt bricks (58 x 28 x 7 cm) in the construction of apse. In Qd. 3 of D8, and Qd. 4 of E8, a rectangular structure oriented east-west also has burnt bricks laying over the courses of random rubble in mud mortar. It has a cell on the western side followed by a verandah with covered sides and open front. The bricks used on an average is of 46 x 26 x 7 cm in size.

Relatively, limited numbers of trenches were opened within the habitation area during the year 1991-92 still the results were encouraging. On the top of the layers (7) and (8), a number of structural activities of period IV have been noticed in the form of floors, post-holes and hearths. A portion of two circular floors is exposed, one has
layers of compact fragmentary tiles flooring and other of laterite soil (Pl. 6.13); both have a series of post holes along their circumferences. Besides, thick jar fragments with appliqué bands are also used in building a compact floor. Incidentally, this floor can be attributed to the bead makers as it has yielded a few finished and unfinished beads. Abutting to this floor, narrow hearth of a metre long has also come to light. The other hearths noted from this level are of simple U shape, some have segmented fire chambers (Pl. 6.15; Fig. 6.14). Further, in Qd. 1 and 4 of H18, an extensive lime finished mud floor has been noticed with a slope towards west and platform like elevation towards east, next to it, there is an iron point found embedded in the floor. The post holes occurring on these floors suggest a kind of rectangular structure with compartments. Another interesting feature noted here is the unit of three post holes, each at a distance of 35 cm which supported a wooden plank possibly to serve as an improvised bench; the perished remains of the said plank is noticed extended between the post holes over the floors (Pl. 6.12). The floor area around the bench shows random rubble pitching which was originally mud plastered (Fig. 6.11).

During the season, a cluster of house plans have been exposed completely, however, a few half exposed are also documented fully.

The overall layout of the habitation suggests that the central street running east-west is the main arterial to which the lanes are branching in different segments of the habitation within the rampart adjoined. These lanes are made in such a way that it connects all the important structures of the habitation as well as the entrances across the rampart.

I. RAMPART

The rampart, encircling the habitation, stands in the midst of an arable landscape filled with scantly trees and stagnated pools. Exploratory exercise indicated possibility of encountering pre defence strata when some microliths were picked up from the exterior toe line of the rampart. The above postulation has turned out to be a reality when the pre-defence levels of microlithic and Chalcolithic assemblages were encountered in the cuttings of S5 and T5 (1988-89). Apart from this, the most significant revelation is the exposition of the hemispherical rampart attributed to sub-period III A with an addition of battlement on its top, assigned to sub-period III B. It is running north-south concomitantly parallel to the later additions in the rampart of period IV and V. In the subsequent field season (1989-90), these features have been re-examined in Qd. 3 and 4 of S5 and T5. It reveals that the iron using people raised this hemispherical rampart over layer 15, measuring 7 m in width at the base and 1.60 m in height, around their settlement (sub-period III A). A trough-like moat (1.50 x 1.50 m) is seen cut in the outer slope on the eastern side. Subsequently, the rampart of sub-period III A is seen reinforced by a battlement (1 x .50 m) of random rubble masonry, in which lateritic gravel is used as mortar. The exterior surface of the battlement has been coated with mud plaster (sub-period III B). In period IV, the height of the rampart was raised to 4.50 m over layer 10. At the base, the width of the rampart is 19.30 m. Subsequently, the height of the rampart was raised in period V; thereby the maximum height of the rampart of reached to 6.40 m and width to 26.50 m. The cuttings of the rampart have shown uniform dumping patten of earth from the moat side in raising its height. In fact, the earth dug from the outer margin of the rampart compliments the architecture of the rampart as well as the lay out of the moat caused around it. In the process of raising the height of the rampart in the successive periods, consequently, the moat gained depth and width.

It is noteworthy that the pre-defence level in the cuttings of R14 has brought to
Pl. 5.10: Cuttings across rampart and moat, southern part, Trench No. H19 to H22, 1991-92
light structural activities of Mesolithic levels (Fig. 6.2). Finally, the cuttings at H16 to H22 in the southern arm of the rampart has confirmed (1991-92) the composition of earthwork which went into the making of defence in period IV and V. Further, the cuttings in F16 and F17 indicate the extension of a passage across the rampart, as no structural activity, falling in the alignment of entrance in the rampart, has been noticed. Evidently, it indicates that the depressions seen in the profile of each of the arm of the rampart are originally meant for passage across the rampart. These openings in the rampart may tentatively be attributed to period IV and V. In the process of raising the height of the defence during period IV and V, the filling of the rampart went on encroaching the habitional area from all the four sides proportionately. As noted above, in the course of raising the height of the rampart, the basal width has shown substantial increase towards the habitation area, thereby delimiting the existing space of the habitation.

Chronologically, the first rampart of the iron using occupation in Vidarbha, Maharashtra dates back to the later half of the 2nd millennium BCE. However, the evidence of embankment and rampart from Jorwe levels at Inamgaon\(^1\) and Daimabad\(^2\) in Chalcolithic contexts has been dated to first half of the 1st millennium BCE.

**J. MOAT**

Residue of moat may be seen in the form of stagnated pools parallel to the outer periphery of the rampart at the site. As usual, the moat normally forms in the process of digging of earth along with outer edge of rampart. The dug portion around rampart turns into a moat. The moat as such is a byproduct of rampart or vice versa. The depth and width of a moat relatively depends on the required height and width of a rampart. The rampart stands more for status than as security apparatus; the moat is useful as water body to meet household requirements as well as fishing, irrigation and other sundry works. Apart from this the moat functions as hydraulic device or water harvesting mechanism for keeping the water tables on higher side, so as to enable a compatible water level in the draw well dug in the habitation area.

At the site, land formation around the rampart and the moat shows a natural slope from north to south which further extends in the southeast direction. This obviously indicates that the base of the moat on the northern flank was higher than the eastern and western extensions of the moat. Consequently, the northern flank of the moat does not retain any palaeo mark of the moat. However, the cuttings in ZE15 and ZE14 laid on the outer arm of the moat reveals 3.75 m deep rock cut channel in the outer escarpment (Pl. 5.4), however, the remaining basal portion of the moat shows undulating surface, maintaining an average depth of 3 m. Such features in the moat on the western side could not be ascertained all through the field-campaigns as it retains water throughout the season. The south-eastern and southern flank of the moat is relatively on a lower plain where siltation has taken place. It is now being used as paddy field because it contains lot of moisture. Here two cuttings namely A20 to A25 (Pl.5.7) and H18 to H22 (Pl.5.10) laid across the moat were subjected to excavations. Both the cuttings have provided new evidence, supplementing each other. Like the northern side of the moat cuttings, the southern side also show deep ditch in the outer escarpment followed by a series of parallel channels of differing dimensions cut in the outcrop showing a natural gradient from west to east. These channels formed part of some hydraulic mechanism to harvest rain water as well as possible subterranean source during the

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Satavahana era (Period V). The surface of the eastern flank appears more muddy than marshy, while its south-eastern extension forms into a pool. In view of the relative height towards the south eastern corner of rampart, it is obvious that the quantum of earth heaped over the rampart has caused depth in the moat. The cuttings between U5 to Z5 laid across on the eastern side the toe of the rampart and outer fringe of the moat have indicated a depth ranging between 4.30 m to 4.50 m. Towards the counterscarp of the cuttings, a V shaped ditch is seen cut in the bedrock that either served as silting channel or some defence mechanism. Similar ditch has been also reported in the Harappan context at Banawali *(Pl. 6.69 & Fig. 5.7).*

The water level noticed during the field operations in the western, eastern and south-eastern portions of the moat has for certain helped in maintaining the water levels inside the habitation zone since its existence. Distribution pattern of draw wells documented at the site shows their concentration in the habitation blocks demarcated as A, B, D and E located close to the western, eastern and south-eastern portions of the moat. The northern part of the moat and adjoining Blocks of the habitation demarcated as F and G have not yielded any draw well as this area is relatively on a higher plain. The disposal of draw wells within the habitation indicates the knowledge of hydraulic device which gave an insight to the community to develop water harvesting mechanism as a part of adaptation to possible climate change.

**K. STUPA (ADM-2) (Fig. 5.6)**

ADM-2, locally known as Devi Hudki, contains remains of a stupa. In order to understand the general plan of the stupa, a number of trenches in grid pattern have been laid across the southern half of the mound. In the process, trench number A3, B3 to B5, C3 to C5, D3, D4 and E3 has been opened. The excavation reveals that the earthen stupa is built over made up earth in two distinct phases of construction. It is circular on plan, showing distinctly the architectural components of *medhi* (radius 17.30 m) and *anda* (radius 10.30 m) with basal remains of a square *harmika* (1.50 m) at the top. The *harmika* is built out of random rubble and in its centre a ring-stone has been noticed, possibly used in supporting the *yeshti* of a *chhatravali*. A shaft was cut in the centre of the *harmika* with a view to know the composition of the earthwork, which went into the making of the stupa. It has been noticed that after a uniform basal treatment of clayey soil, earth of the habitational deposit, mixed with lateritic gravel, rubble, stone chips, sand, etc., were heaped up from all the sides. After achieving the height of 1.60 m above the circular *medhi*, the core of the *anda* is seen reinforced with heavy-duty rubbles of uneven sizes, which is ultimately covered by earth and lateritic gravels to form a hemispherical dome. In the process of construction of hemispherical dome, a terrace was formed around the *medhi*. Finally, in order to defuse the periodical erosion, the surface of the stupa has been treated with rammed lateritic gravels. Chronologically, the stupa might have coexisted in the upper middle part of period V as reported from ADM-1. There have been noticed two phases of construction in the stupa. The stupa of phase I is built over layer (5), whereas towards the later phase, restoration takes place on the top of layer (4). In earlier phase, the L-shaped pathway (9.80 m x 0.40 m) leading to the stupa is demarcated with a single coursed shale stone wall, whereas in the later phase the same is indicated by a brick wall (22.20 m x 1.20 m); mud mortar was used in both the constructions. The inner width of the pathway is 4.90 m.

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From the upper levels of the anda a unique etched carnelian bead is reported showing a moving bull to right facing a tree in railing. Other antiquities reported are of mixed nature, which include, both punch-marked and inscribed variety of cast copper and lead coins, terracotta beads etc., belonging to the beginning of the Christian era. In support of the chronology, the inscribed coins of the Satavahanas and Maharathis have been taken into cognizance.

The target of ascertaining the nature and phases of construction of the stupa has been achieved in the first field season (1988-89), hence concentrated efforts have been made at ADM I for the remaining three field seasons.
ADAM 1988-92
DISTRICT-NAGPUR, MAHARASHTRA
SECTION ACROSS THE RAMPART AT ADM-1

Fig. 5.7: Section across the Rampart and Moat: ADM-1, 1988-92
VI

STRUCTURAL REMAINS

A. INTRODUCTION

Without exception, structural remains have been exposed from all the cultural horizons at the site. Structures of period I to IV have been identified and described with the help of grid in which they occurred. Likewise, the construction of rampart and moat in sub-period III A and subsequent introduction of battlement in sub-period III B, besides expansion in the rampart and moat in period IV and V have been treated in similar manner. However, other structures of period V have been numbered serially starting from south-eastern side of the habitation and are further grouped in Blocks starting from the same side.

The discovery of structural remains from aceramic Mesolithic (period I) and Chalcolithic (period II) horizons assumes importance in view of the fact that no other known site in the peninsular Deccan has so far yielded evidence of this kind in a stratified context. It is quite likely that the earlier reported sites have been studied emphasizing more on the cultural sequence rather than focusing other habitational aspects. In all fairness, in a multi culture site, as we proceed from the upper level to the lower levels, the structural activities of the succeeding periods gradually restrict the digging operation, thus depriving exposition of cultural components at the lower levels. The site has reported cluster of successive structural phases, thereby delimiting areas for detailed study of the preceding periods. This compulsion has resulted in exposition of a large area of period V which in a way helped in understanding the settlement pattern of the corresponding Satavahana period.

In spite of these constraints, the excavation has brought to light fairly extended evidence of settlement in each period of occupation. There is a gradual increase in the density of structure to meet the demographic pressure. From a makeshift type of shelter or shade of improvised nature, the site has experimented structures of regular shape from circular to apsidal and square to rectangular. Initially, the structures have been raised with the help of bamboo and wood and thatched by grassy substance. Subsequently, shale stone and lateritic soil are introduced as building material, which continues till the later part of the habitation of period V. Burnt bricks are introduced sparingly at the site in period IV. The stone and brick structures are sometimes set in mud and at times lateritic soil mortar. Use of terracotta tiles starts occurring from period IV. The floors of houses are normally treated with mud and lateritic gravel, besides limited use of tiles in the make up of pavements. In the beginning, houses have been built on plain treated surface, but in period V, there are examples to show that structures are built in marginal slopes, at times showing features of plinth. In the later periods when regular drainage system is evolved, the natural slopes are exploited for outlet of the drains.

The advent of iron technology marked sweeping changes at the site which has resulted large scale socio-economic transformation, as it is evident in the form of early urban centres comparable to the Ganga plain. Appearance of iron registers a qualitative change in the settlement. Introduction of rampart around the settlement in sub-period III A with an addition of battlement in sub-period III B is a major contribution of the site to the entire Deccan. However, as mentioned earlier, the evidence of embankment and rampart in Chalcolithic contexts at Inamgaon and Daimabad dated to first half of the 1st millennium BCE are chronologically later than the one reported at Adam. These evidences gradually evolved and laid the foundation of early historical settlements in Deccan. The strategic location of the site contributed to its growth as one of the Janapadas located in the
Pl. 6.1: Mud and laterite mixed rammed floor bearing post holes, Period-I

Pl. 6.2: Rock cut floor with post holes and platform, Period-I
Fig. 6.1: Postholes aligned to a circular structure, Period-I

Fig. 6.2: Rock cut floor with post holes and platform, Period-I
trans-Vindhyan trade route, connecting the upper Indian urban centres with their counterparts in the peninsular India.

The exposed structural remains from period I to V are described below. It has also been attempted to define the functional aspects of these structures.

**B. PERIOD I**

The first settlers at the site occupied the south-eastern part of the virgin land having natural inclination from the north-western side. In all probability, the inhabitants selected the south-eastern slope of the mound for occupation as it is close to water source. Couple of structural remains noticed during excavation in this area are detailed as under.

The cuttings of trench no. L8/3 exposes the earliest structural remains at the site belonging to the Mesolithic period. A careful scraping of the central portion of the moisturized surface of layer no. 18 in an area of 3.00 m x 2.70 m has exposed a suspected stretch of sedimentary floor mixed with lateritic gravels wherein at least five postholes of varying diameter of 10 cm to 8 cm have come to light. On plan, these postholes form a semi-circular pattern and occur at an interval of say 50 cm to 60 cm. The entrance of the structure is from the eastern side where the distance between the two postholes is 72 cm. On the basis of the semi-circular arrangement of the postholes, the complete diameter of the circular structure appears to be 2.00 m (Pl. 6.1, Fig. 6.1). The floor has yielded backed blades, points, scrapers of chalcedony, agate and quartz suggesting their subsistence activities.

Significantly, the pre-defence horizon in one of the rampart cuttings of trench no. P14/1 and 2 has exposed another structural remains of larger dimension than the one noted above. Here the first settlers have utilised the natural lateritic outcrop for occupation and subsistence. Similar to the structure noted above, these structures are also orientated in east-west direction. These structures are in a row complementing each other. The oval shaped structure, oriented east-west, is a dressed elevation of a floor bearing postholes indicating some kind of thatched superstructure of gable or lean-to nature supported by wooden posts. The postholes are seen along the longer axis of the oval shaped floor. The approximate extent of the floor is 6.50 m x 3.50 m. It is interesting to note that the postholes along the longer axis are of larger diameter ranging from 45 cm to 40 cm than the one scooped in the inner portion of the floor measuring 30 cm. The depth of these postholes varies from 10 cm to 25 cm. The evidence of the entrance is seen on the eastern side. Outside the entrance, a rock cut base of near trapezoidal shape followed by a segmented circular platform of 1.10 m in diameter is recorded (Pl. 6.2, Fig. 6.2). The elevated rock cut platform perhaps served as sit out at the entrance of the oval structure for attending to some household activities like weaving fishing nets or basketry; while the segmented platform perhaps functioned as an anvil for knapping and fashioning of tiny tools. Micro debitage of chalcedony, agate and quartz from the level strengthens the functional hypothesis of these structures. The occurrences of finished tools along with micro-debitage suggest different stages of manufacturing microlithic tools denoting their primary context at the site.

The Mesolithic period is distinguished by semi-sedentary way of life in which man started colonising virgin areas like the thickets useful for community hunting and gathering, and the nearby perennial sources for fishing. The present site since falls in similar geomorphological settings, has given easy access to the natural resources for subsistence pattern. The structures found at the site suggest a settled way of life. The feature of the settlement suggests building of structures on natural surface either on the outcrops or on the sedimentary slopes.
Fig. 6.3: Adam: Circular structure, Period-II

ADAM: 1988-92
STRUCTURE OF PERIOD II

Fig. 6.4: Adam mud floor with post holes, Period-II
C. PERIOD II

Like period I, the structures of period II are also reported from the pre-defence level. Owing to the paucity of space for excavation at the lower level of habitation, structural remains of the first farmers of the Wardha-Wainganga valley could be laid bare in four different cuttings.

Like period I, the plan of the structure of circular variety suggests a seasonally settled existence which continued to exist in period II.

One of the best preserved structures located in the eastern half of trench no. S5/1 is built over layer 17 and sealed by layer 16. The structure, circular on plan, has an approximate diameter of 4.00 m. The circular plan of the structure is indicated by postholes which are arranged in semicircular order, dug along the periphery of the floor. Each of the posthole is of 10 cm dia and occurs at a regular interval of 50 cm. An oval shaped fire pit, full of ash and charcoal is located at the centre of the structure. A triangular anvil of rolled stone is placed near the north-western arm of the fire pit. The fire pit is possibly used for extracting food grains and the anvil for processing the seeds. The structure probably has an entrance from the western side as the floor activity is extended towards this side. A shallow circular battered pottery base has been noticed on the outer periphery of the entrance. This has possibly served as base for holding the water pitcher. Adjoining the circular potsherds base, deposit of ash is found dumped along the outer north-western periphery of the circular structure. Dumping ash against or near the wall is a living practice in the rural areas in Vedarbha. At times it serves as insecticide and prevents termite attack (Fig. 6.3).

The next structure, found in trench no. B1/2, is covering an area of 2.85 x 2.30 m. It is largely in the form of a brunt patch of mud floor bearing four postholes on the eastern part of the floor. On plan the postholes are arranged in circular order. On the north-western side, a couple of shallow fire pits have been noticed. Next to the fire pits, a celt-like object of shale stone is found placed on the edge of a burnt base of clay. Contextually, it is quite likely that the celt object was used as a ritualistic object rather than as cutting implement due to splitting nature of the shale stone. Similar observations have been made in the contexts of findings from Gufrakal2 and Sikkim3 (Fig. 6.4).

Another interesting structural remains is found in trench C1/1. It is comprised of shallow ovalish hearth containing patches of ash mixed with charcoal bits. It is obliquely aligned in east-west direction. At some point of time the edge of the hearth has been reinforced with shale stone chips, traces of which can be seen on the south-eastern end of the fire pit. Conspicuously, a shallow circular battered pottery base, identical to the one noticed in S5/1 has also been found on the western edge of the fire pit. Likewise, further south of the fire pit is noticed a triangular stone artefact placed on a mud platform, which might have served as an object of ritual comparable to the one in the cuttings of B1/2, noted above (Pl. 6.4). Traces of postholes on the eastern periphery of the hearth have been noticed.

Another mud floor embellished with couple of circular fire-pits (diameter 45 cm) is noticed in the southern half of trench no. G8/2. It is built over layer 16 and is sealed by layer 15. The fire-pits dug in east-west alignment, contains ash and bits of charcoal. Towards the northern side of the

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3. A.K. Sharma, Prehistoric exploration in Sikkim, Puratattva, 10, pp. 82-83.
Structural Remains

Pl. 6.3: Adam, mud floor with post holes, Period-II

Pl. 6.4: A view showing burnt floor, postholes Period-II

Pl. 6.5: A polished celt over a mud floor, Period-II

Pl. 6.6: Mud floor with two sets of post holes Period-III A
ADAM: 1988-92
STRUCTURE OF PERIOD II

Fig. 6.5: Mud floor with post holes, Period-II
floor a polished celt is noticed. The extent of the mud floor is $4.25 \times 2.15$ m (Pl. 6.5).

Out of the four structures described here, three have stone objects placed in situ either close to fire pits or slightly removed from it, and two of the fire pit floors show shallow circular base of battered pots. Occurrence of identical planning in three different cuttings of the Chalcolithic levels in the disposal of fire pits with battered pot base and triangular stone object is derived out of certain common ritualistic function, as is noticed in Chalcolithic context at Daimabad\(^1\).

### D. PERIOD III

The structures of period III has been further classified into sub-period III A and sub-period III B. During the sub-period III A, a rampart around the habitation was built over the pre-defence habitation levels of successive period I and period II. It was further reinforced by a battlement in sub-period III B. The structures of sub-period III A show continuity of elements from the preceding period, while sub-period III B experimented some new building plans and introduced non perishable building material.

#### (i) Sub-period III A

The structural remains of sub-period III A are reported from B1/2 and C1/1, laid in the central portion of the habitation area. Traces of two structures facing each other in east-west direction have come to light. The structure on the western half shows mud lined wall embellished with postholes. The entrance to this structure has porch-like entrance marked by two projecting postholes. Immediately outside the porch, lies a U shaped chulha opening towards north. Corresponding to the porch of western side are noticed two postholes which might have served as projections to the porch-like entrance to another structure existing on the eastern side. To the south of this porch, a portion of a built-up circular bin platform is noticed having a diameter of approximately 80 cm. The space between the circular structures with a porch-like entrance might have served as a courtyard for household activities. The overall exposed area measures $2.85 \times 2.30$ m (Pl. 6.6, Fig. 6.6).

The adjoining trench C1/1, has reported patches of burnt mud floor spread in an area of $3.70 \times 2.80$ cm. Towards the south-eastern portion of the floor, four postholes (diameter 23 cm) are traced which roughly form a semi circular shape on plan. A shallow fire pit of ovalish shape ($95 \times 50$ cm) is noticed within the enclosure. It is full of ash and charcoal bits. Further south west of the fire pit, near the entrance, is placed a stone anvil measuring $35 \times 35 \times 10$ cm. The evidence of the anvil adjacent to the fire pit indicates some craft activities (Fig. 6.7).

#### (ii) Sub-period III B

Sub-period III B shows continuation of structural features of the preceding phase, besides introduction of some new elements which apparently revolutionized the structural pattern of the succeeding periods. Besides the continuance of circular houses, single unit oblong houses are introduced. Among the building material, application of stone shows an increasing need of strong and durable structures which, in turn, is a pointer to the increasing affluence of emerging city states (Janapadas). The gradual rise in the quality of building material from mud to stone and to bricks, and structural planning from circular to oval, square to oblong is a unique phenomenon noticed at the site which contributes towards understanding the nature of gradual developments of city settlements from incipient stage to formative stage.

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\(^1\) S.A. Sali, *Daimabad 1976-79*, pp. 109-114, pl. XXVIII.
ADAM: 1988-92
STRUCTURE OF PERIOD III A

- Fire Chamber
- Courtyard
- Porched Entrance
- Circular Bin Platform
- Posthole
- Mud Wall

Fig. 6.7: Mud floor with post holes, Period-III A
ADAM: 1988-92
STRUCTURE OF PERIOD IIIB

Fig. 6.8: Circular structure, Period-III B

Pl. 6.7: A view of circular structure, Period-III B
ADAM: 1988-92
STRUCTURE OF PERIOD III B

Fig. 6.9: ADAM: Rectangular structure, Period-III B

Pl. 6.8: Rectangular house plan with mud floor and post holes, Period-III B
Pl. 6.9: A shallow pit used for extracting lime, Period-IV

Pl. 6.10: Semi-circular portion of a shell stone structure and a well of burnt brick of voussoir type, Period-IV
Trench no. T5/3 has reported a circular structure, which is sealed by layer 11. The base of the structure is treated with red lateritic gravel up to a thickness of 7 cm to 10 cm. Over this lateritic base, possibly a dwarf wall of random rubble was laid (Pl. 6.7). The width of the wall is 45 cm and the internal diameter of the enclosure is 4.70 m. Near the entrance, on the eastern side, is noticed a couple of shale stones stacked one above the other. The upper part of the stone bear traces of shallow marks which indicate its use as a pivot stone post tied with single door-leaf. The rotation of door-leaf over a period of time has left an imprint over the surface of the pivot stone (Fig. 6.8). The entrance to the structure is approximately one metre in width. Considering the treatment of the floor with lateritic soil, it appears that the structure was used for storing grains indicating the beginning of surplus production at the site.

Trench no. Q14/3 has reported a structure which is more of trapezoid shape than oblong, sealed by layer 10. The basal part of the wall is treated with red lateritic gravel up to a thickness of 10 cm. Over it are noticed remnants of postholes of varying diameter ranging from 35 cm to 23 cm, occurring at irregular intervals as reinforcing agent to the walls. The number of postholes in the rear wall and its relative thickness show special measures taken for strengthening it from behind. The width of the wall varies from 51 cm to 79 cm. The maximum length at the inner back of the enclosure is 4.00 m while its inner front portion measures 3.60 m. However, the width of enclosure is 3.30 m. It has an ovalish bin platform with a posthole towards its north-western edge. The southern arm of the wall of enclosure is damaged; hence feature of entrance could not be determined. Yet, the damaged portion has been reconstructed showing one metre wide entrance on the southern side. Apparently, this structure appears to have been used as storage purpose (Pl. 6.8, Fig. 6.9).

E. PERIOD IV

With regard to the structural transformation, it is noted that there is a continuity in the building plans and construction material of the preceding period with an exception of introduction of burnt bricks. The south-eastern portion of the habitation has brought to light structures built out of bricks and stone. The structures which functioned as craft units were located in the peripheral of the habitation were made of perishable material. A shallow pit measuring 2.25 x 3.35 m for preparing lime has come to light from the cuttings of trench no. M14/3. The section of the pit shows watermarks at regular intervals indicating its constant use over a period of time. The base of the pit has recorded thick lime incrustation of varying thickness ranging from 1 cm to 1.5 cm (Pl. 6.9). Likewise, the structures of makers of bead have been reported from the southern extremities of the habitation. The location of structures dedicated to craft units in outlying areas of the habitation indicates the concept of keeping the industrial units away from the habitation. It also signifies the appearance of urban planning as well as socially stratified settlement. Interestingly, the structures of communities practising crafts who could afford only short-lived dwellings are made of perishable material whereas the structures of those who were commissioning these craftsmen are of durable material. This has relevance in the growth of societal stratifications.

The structures in this period are built on the slope as well as on flat surface. The brick structure, seen paralleled to the alignment of lane 1 in the cuttings of N6/2, has followed gradient of lane in laying basal courses. The structure has eighteen courses of which either ends are robbed. The length of the wall is 7.28 m while the bricks used are of 42 x 25 x 8 cm. Further details of the structure could not be determined because of the structural activities of the overlying periods (Pl. 6.16).
Fig. 6.10: L-shaped walled structure with rammed floor, Period-IV

Pl. 6.11: L-shaped walled structure with rammed floor, Period-IV
ADAM: 1988-92
STRUCTURE OF PERIOD IV

CONJECTURAL ELEVATION

Fig. 6.11: Plan and elevation of wooden bench, Period-IV

Pl. 6.12: View of remains of wooden bench seen within stone lining, Period-IV
Further south, almost in the same alignment, the cuttings of trench no. N7/4 has revealed a portion of semi circular structure made of undressed shale stone, set in mud mortar. The base is treated with compact black cotton soil and the inner mud floor is mixed with lateritic gravel. The exposed semi circular portion measures 3.25 m, thereby suggesting the diameter of the circular structure to 7.6 m. The two-coursed wall showing a thickness of 25 cm bears traces of posthodes for supporting the superstructure of perishable material (Pl. 6.10).

A brick well, of later phase, having a diameter of 1.1 m is surfaced in the same trench. A cylindrical foundation pit of 1.3 m is noticed dug through layer (8) to a depth of 3.92 m, touching he natural soil. In all fifty-four courses of specially made voussoir shaped burnt bricks, set in mud mortar, are used in the construction. The maximum thickness of the wall of the well is 20 cm and the inner diameter of the well is 80 cm (Pl. 6.10).

As noted above, the structures of perishable material attributed to the craft units are located in the outlying areas of habitation in the cuttings of trench no. Q5/2, S5/4, 17/4, H18/1 and 4.

The trench no. Q5/2 has reported north-west corner portion of an oblong house. The exposed portion shows L-shaped mud wall foundation having a thickness of 45 cm, embedded with postholes. The mud wall foundation possibly had a dwarf wall of shale stone, as indicated by a few remnants of shale stone left in situ over the foundation wall. The longer axis measures 4.15 m while the shorter 2.55 m. The inner floor is rammed with lateritic gravel determines its function as store house. Over the floor are noticed a few remnants of terracotta roof tiles as collapsed material of the superstructure. The floor of the house is sealed by layer 6 (Pl. 6.11, Fig. 6.10) indicating last phase of structural activity of period IV.

A kitchen has been exposed in trench no. S5/4 sealed by layer 7. Three postholes of 20 cm in diameter in a row over the mud floor; evidently suggest the existence of thatched roof over the kitchen. It has a U-shaped chulha (55 x 48 cm) with an opening towards west, and to its north is noticed a broken legged quem (width 23 cm and thickness 20 cm) which served as food processing equipment.

The cuttings of trench no. H17/4 and H18/1 and 4, located on the southern fringe of the mound have reported a cluster of structural activities of two phases, i.e. phase A and B. The structures of phase A are largely circular on plan. An uneven circular structure having postholes of varying diameter ranging from 30 cm to 20 cm is noticed in H18/4. It possesses lateritic gravel and clay treated floor extending towards east, beyond the circular limit of the hut. An interesting feature noticed inside the hut is the remains of a perished wooden bench supported by three wooden posts. The evidence of three postholes, each at a distance of 35 cm had supported the wooden plank of the bench. The central post is 20 cm in diameter while the flanking ones are of 12 cm. The wooden plank has been found in decomposed condition measuring 1.50 x 0.57 m (Fig. 6.11, Pl. 6.12). The floor below the bench is pitched with random rubble and treated with mud plaster. The cuttings in trench no. H17 Qdt. 1 and 4 have laid bare an extensive floor of lateritic gravel treated with lime plaster. The patches of lime plaster can be observed in a major area of the cuttings. Over the extension of the floor, a circular structure can be seen on eastern portion (Pl. 6.13, Fig. 6.12). It is further marked with some unique features of reinforcement in the enclosure wall by fixing wooden posts both externally and internally. The enclosure wall of mud is strengthened further by giving a supportive layer of lateritic gravel, externally. The entrance on the southern side is specially treated with shale stone revetment, aligned in L-shape; the inward turn in the
Excavations at Adam

Fig. 6.12: Circular structure, Period-IV

Pl. 6.13: A view of Circular structure of a hut, Period-IV
ADAM: 1988-92
STRUCTURE OF PERIOD IV

Fig. 6.13: Circular structure with stone revetment, period-IV
revetment discerns an entrance to the structure. The inner floor of lateritic gravel bears residue of lime plaster. Here, the lateritic floor was specially treated with lime plaster denotes some kind of insecticidal measures for using the space exclusively for staking or storing agricultural produce.

The cutting of trench no. H18/4 has reported a circular structure measuring 4.00 m in diameter (Pl. 6.14, Fig. 6.13). The exposed portion of the structure shows semi circular laterite gravel lining on the northern and southern periphery of the wall. The external portion of the northern peripheral lining is further strengthened by shale stone revetment, extending up to 1.10 m, while the corresponding southern side bears lining of lateritic gravel parallel to the soling of mud bricks with certain amount of exterior gradient, possibly serving as door sill or passage to another activity area, exposed to its immediate south. The circular enclosure possibly supported an improvised thatched shade, resting over four posts visible on the plan. The central area of activity of a workshop is concentrated around a U-shaped chulha or fireplace measuring 54 x 44 cm. To the west of chulha, there is a stone anvil measuring 22 x 18 x 10 cm. The stone anvil pitched on the western side of the fire unit is an important component to consider this as a workshop accessory. On the north and west side are seen basal remains of circular battered potsherds and a rim base stand measuring 22 cm in diameter for holding water pot. Behind the chulha, a charcoal dump is noticed. South of this shaded workshop is cited an open-air workshop, showing north-east oriented chulha or fireplace measuring 41 x 41 cm and a rim base stand of pot measuring 22 cm in diameter; adjacent to this activity area, a dump of charcoal is strewn. A semi circular pottery base is found embedded in the floor in front of the chulha. On the basis of structural elements of activity, it can be postulated that these area might have been used as extension of bead maker’s workshop.

(i) ATELIER OF BEAD MAKER

The trench no. H18/1 and 4 have unearthed a unit of one-room structure of oblong shape facing each other with a common courtyard in the centre. Both the units are built of black soil showing feeble traces of postholes at irregular intervals. The western arms of the walls are largely embedded in the baulk, whereas other portions of the walls and floors are exposed for observation and taking note of. The walls are not uniformly aligned and are of varying thickness ranging from 40 cm to 60 cm.

The structural unit on the northern edge of the courtyard indicates an entrance of 1.65 m wide from the southern side. There are patches of floor treated with mud, mixed with lateritic gravels and plastered with lime. Over the floor lie a whetstone and fragments of thick handmade storage jar, embedded to the floor. The structural unit measuring 3.00 x 2.45 m on the southern half possesses an open front towards the courtyard. The mark of a posthole in the centre of the open front suggests the existence of thatched superstructure of lean-to type.

Apparently, the findings from this structural unit suggests their being used as bead maker’s workshop. The floors of the structure have reported two unfinished beads of crystal and carnelian (ADM-1: 13214 and 13435), besides an unfinished pendant (ADM 1: 13434). In addition to these, it has also reported six finished beads of carnelian, jasper, amethyst and steatite. A couple of workshop equipments used in bead making like oblong rubber or whetstone and a stone anvil have also been surfaced in in-situ position on the floor of the courtyard. In the courtyard are noticed two fire units possibly used for heating the cobblestones being the raw material for easy knapping and further processing them for bead making. The south facing double mouthed fire unit measures 90 x 48 cm while the west facing measures 50 x 48 cm. The circular portion of the south facing
Pl. 6.15: Floor of bead makers house with hearths, period-IV

Fig. 6.14: House of Bead Makers, Period-IV
double mouthed fire unit is inserted with four random rubbles provides a clue to its function as heating unit. There is a circular battered pottery base towards its left arm for holding water pitcher which functioned as cooling unit in the process of bead making. A heavy duty fragment of a rim of a storage jar is embedded at the back portion of the fire unit facing west. On the either side of the fire unit, there are noticed circular platforms of black soil (Pl. 6.15, Fig. 6.14).

**F. PERIOD V**

Compared to the structures of the preceding periods, the structural remains of period V show a variety of rectangular, squarish, circular and elliptical structures. In order to describe these structures conveniently, they have been numbered serially from 1 to 70 which are found distributed in 7 blocks, numbered A to G. The blocks have been demarcated on the basis of the emerging street pattern within the habitation area. The streets within the rampart area have been realised on the basis of surface features of the contour elevations as well as actual excavations. The formation of the streets has shown an arterial pattern. The distribution of structure within a particular block has been defined considering the lay out of the street. However, block A falls on the south-eastern periphery of the rampart while block F on the north-eastern periphery. It is not feasible to excavate all the structural remains in its entirety, yet, on the basis of surface features, certain areas have been considered for excavation for understanding the settlement pattern of the Satavahana period (Fig. 6.15).

As compared to the period IV, the structural remains of period V indicate on economic front, a greater diversity of occupations leading to rise in the specialised craft and mercantile activities. The acceleration in the craft activities led to exploitation of natural resources in large scale. The number of bin platforms indicates the increased capacity of agricultural produce by converting a larger area for cultivation which led to surplus economy during this period. Factors such as agricultural production, craft development and trade activities have substantially contributed in the overall development and growth of the city at the site. This may be considered as an indication of continuance of the congenial ecology prevailing in the Wardha-Wainganga valley.

The structural ramification of period V has brought to light structures suitable for occupants pursuing crafts and trade, apart from their activity areas. By this time, the site has emerged as important hinterland mart and participated in the inland and offshore trade activity. In view of the above revelations, the site has functioned as a seat of power where artists and craft persons have been commissioned to engage themselves in gold smithery, black smithery, lapidary and stone ware work, spinning and dying, etc.

Among the specialised craft activity at the site, the lapidary work prevailed over other crafts. Although there is no excavated evidence of potter's kiln, a potsherd embedded with a local Maharathi copper coin, found at the site, indicates the existence of potter's craft activity in the vicinity of the site. The evidence of iron smithery has been reported from the central part of the habitation in trench no. B2/2, wherein a floor has revealed rubber and whetstones along with a sickle and ploughshare (Pl. 6.17A). The site has also reported large quantity of debitage of bone from the cuttings of G7/2 and G7/3.

The debitage found over the working floor consists of bone chips, unfinished and discarded bone points. Apart from these craft activities, the site has reported structures where agricultural produce and other finished products were stacked and marketed.
Fig. 6.15: Key plan of excavated structures, Period-V
The structures are generally given basal treatment of either black cotton soil or lateritic gravel mixed with soil. Mortar used in rubble and burnt bricks structures are either of sticky clay or ferruginous clay mixed with gravel. Ground plan of the structures at times is seen with postholes cut within the brick or stone masonry, sometimes aligned to the outer periphery of the wall. Placement of postholes indicates the kind of superstructure they supported. For example, the ground plans of rectangular houses with wider width span and with postholes on either side of the shorter axis may suggest roof being supported by a raised central beam and thatched portion leaning on either side of the beam, while those with veranda indicate stepped lean-to formations. Wherever the width of the rectangular structure is less, the possibility of having a flat roof on them appears plausible. In case of rectangular structure with wider span, pitched or gable roof might have been conceived as superstructure. Over the elliptical structure ogee or vaulted roof might have suitably been thought of. There are well known examples of rock cut caves and curved specimens of bas-relief and paintings of Ajanta to suggest this postulation. Likewise, over the rotunda type of structure, a domical roof has possibly have been envisaged. A number of terracotta finials reported from the excavations at the site suggest that their use as decorative element over the top of the ogee or gable roofed structures (Pl. 6.70).

As regards sanitation and hygiene, the site has reported thinly dispersed evidence of covered and paved drainage either falling into cesspools or outside in streets. Limited evidence of privies indicates that inhabitants preferred to go out for natural call rather than using the in house facility. The floor around the wells have at times been treated with pavements and sparingly provided with barrier walls from either side for regulating the users from hygienic point of view. Incidentally, the barrier walls have been introduced in the north and south directions in order to compel the users to draw water by facing east or west of the well. Contextually, the wells at times considered as sacred and serve as a place of ablution. Traditionally, drawing water either from east or west has been considered as auspicious (Fig. 6.30).

A noteworthy factor in the town planning at the site is the alignment of the houses. Irrespective of the phases in construction, it is observed that the houses in all the blocks are tilted 10° to 20° west or 10° to 30° east from the magnetic north. The orientation of the structure has been envisaged possibly with a view to prevent the spell of dry south-westerly wind in winter. Such inclinations might have helped the structure to sustain the pressure of wind thrust of high velocity. An example has come to light where the structure has collapsed due to its north-south orientation without any inclination (structure no. 57 and 69). Incidentally, these two structures are built over a weak foundation at a higher plain, which might have also contributed towards the collapse besides their inclination (Pl. 6.60).

(i) BLOCK A

The structures in Block A are exposed in two segments, one situated to the immediate vicinity of the eastern wall of the rampart and the other along the southern wall of the rampart.

Broadly, there are two phases of structural activity. The earlier phase has revealed a public drainage system with bath platform and soakage jars, while the later phase has revealed a house complex on either sides of the house drain. One on western side of the house drain, there are three structures in trāṅguṭaśālā type of layout with a common courtyard in the centre and behind are two more houses one having three rooms while the other one (Fig. 6.18).
Pl. 6.17: A view of squarish platform, structure No. 1, Period-V

Pl. 6.18: A view of rectangular platform, structure No. 1A, Period-V
Pl. 6.17A: A view of a floor of iron smith showing iron sickle and ploughshare and whet & rubber stones, Period-V
Fig. 6.16: Plan of structures laid on either side of the lane, Period-V Block A & B
STRUCTURE 1:

In trench no. O5/4, a squarish platform measuring 2.25 m with five flights of steps from east side is found towards the eastern arm of the lane. Built out of random rubble, the five steps, leading to upper base, uniformly has a riser of 25 cm and tread of 30 cm. Clay mortar is used in the construction and the platform has gained a maximum height of 1.50 m. During the course of excavations, efforts have been made to determine the function of the stepped structure. Owing to its stepped nature and its location near the junction of the main entrance on the eastern side of the habitation area, it was possibly used as rostrum for public deliberations on a particular occasion to address community gathering. Other possible function of the platform could be for hoisting banners of court insignia (Pl. 6.17).

STRUCTURE 1A:

In a close proximity of the stepped structure, a rectangular platform measuring 2.70 x 2.25 m of stone masonry set in mud mortar is located in the cutting of trench no. P5/4. It is built in a slope running east to west, hence the central part and western margin of the platform is found eroded. However, special care has been taken to strengthen its corners by inserting alternately heavy-duty random rubbles. The outline of the platform is systematically coursed with five to six layers of rubbles, while the central portion is pitched randomly with stones.

The purpose of constructing the podium-like structure in the proximity of the stepped platform near the main entrance of the habitation area has some social implications of functional nature. Our interpretation of structure no. 1 as a rostrum and the structure no. 1A as a podium seems to be complementing each other's function as both these structures are located in close proximity as well as situated on the eastern side of the main entrance to the habitation area (Pl. 6.18).

COMPLEX OF STRUCTURES NO. 2, 3 AND 4: (Pl. 6.16; Fig. 6.16)

A complex comprising of three structures, besides a covered drain is located in the trench no. N7, O6, and O7. The complex has a common courtyard and is built over the north-western inclined slope, comprising an elliptical structure and two independent single squarish rooms. Towards the north-western corner of the courtyard, a covered drain is noticed terminating in the lane. Next to the entrance of the elliptical structure is found a storage jar measuring 1.00 m in diameter. The exterior of the jar is decorated with an image of standing Gajalakshmi along with other floral design elements in appliqué technique. Apparently, the image gives an impression of the Sunga idiom more than that of the Satavahana (Pl. 6.19). Perhaps the jar has been used for storing grains as its base is treated with lateritic gravel.

Structure 2:

The elliptical structure in random rubble masonry laid east-west has an entrance from south side, opening in the courtyard. It is found spread across the third and fourth quadrants of O6 and partly in the second quadrant of O7. The structure is largely robbed, yet it shows some unique features, not noticed in other standardized elliptical structures at the site. The eastern apsidal end is slightly blown out of proportion when compared with the corresponding end of this structure. The eastern cell measuring 4.30 x 2.60 m is relatively small, apparently functioned as storage area, whereas the western cell measuring 4.30 x 4.40 m shows an inbuilt bench measuring 1.80 x 1.00 m and U-shaped chulha, near the entrance, which suggests it to be a living cum cooking place. The elliptical structure has yielded a hoard of copper Punch-marked coins consisting of 102 Asika janapada types of coins (Reg. No. 7000).
Pl. 6.19: A view of storage bin depicting gajalakshmi, found in the forecourt of structure No.2

Pl. 6.20: Stone Mould, upper face shows an image of Salabhanjika, Period-V
STRUCTURES OF PERIOD V

BLOCK A

Fig. 6.17: Plan of structure no. 5 & 6, Block A, Period-V
Pl. 6.21: A view of structure No. 5 & 6, Period-V
Structure 3:

It is a squarish cell measuring 3.30 x 3.00 m on west side of the courtyard with an opening of 80 cm in the east. It is located in the second quadrant of trench no. N7 and made of random rubble masonry, set in mud mortar.

Structure 4:

Another squarish cell of single room measuring 3.30 x 3.00 m with an entrance of 90 cm in the west is approached through the courtyard is laid opposite to the structure no. 3. Between the structure no. 2 and 3, a covered drain is located terminating in the lane. It is connected to a stone paved bathing platform on the eastern end of the courtyard. It has a slope towards the adjoining lane. The drain has a length of 4.90 m and a width of 0.50 (Fig. 6.16). Here, lateritic gravel is used as mortar to prevent seepage as well as to strengthen function of the drainage.

The house complex has yielded a variety of findings mainly beads, coins, ornaments including a gold object. An iron axe is also found near the storage jar in trench no. 07/1. Thus the complex may be assigned to a class of people who could afford to hoard punch marked coins, store grains and having fath in Lakshmi, the goddess of wealth.

COMPLEX OF STRUCTURES No. 5 AND 6: (Pl. 6.21; Fig. 6.17)

Another structural complex, comprised of four roomed house with a flanking veranda from north and south sides, together with brick paved central porch in front of the entrance is located in the trench no. O8 and O9. The house is built over clay foundation in random rubble, set in mud mortar. The upper course of the dwarf wall shows use of a few burnt bricks, bearing marks of postholes. The structure no. 6, built in brick, is a bath platform with covered runnel.

Structure 5:

A four-roomed house measuring 10.00 x 6.00 m with an enclosed veranda is aligned north-south. It has an entrance from the west side, through a brick-paved porch. The room facing the central porch has an entrance measuring 1.20 m across the western side and correspondingly on eastern side measuring 1.10 m. This room measuring 3.10 x 2.95 m has served as passage to other three flanking rooms, one on the north and two south. The north room measuring 3.05 x 2.50 m has an entrance of 1.10 m wide on the east side. Among the two south flanking rooms, the first measuring 3.25 x 2.75 m with an entrance measuring 1.70 m on the east, possibly has served common function concomitant to the room located on the northern flank of the structure. However, the room measuring 3.25 x1.80 m on the southern end with an entrance of 1.10 m on the east has served as privy. The floor of this room has reported two ring wells measuring 70 cm in diameter placed in east-west alignment. The two are possibly used as privy by keeping wooden planks as footrest across the terracotta ring. The sediments reported from these ring wells were pale green in colour which require chemical analysis to strengthen its function as privy.

Structure 6:

It is a damaged squarish bathing platform, which is an integral part of structure 5 located in its backyard. It is linked to a covered brick drain running parallel to the structure in north-south direction up to 8.10 m which further takes a right turn in east-west direction and runs to a length of 6 m which finally terminates in the south-west corner of the house.

The forecourt of this barrack-like complex has reported activity area of gold smithery. A sandstone mould in in situ position, broken whetstone, battered red pottery base embedded to floor with an
Fig. 6.18: Plan of structure no. 7, 8, 9, 10, 11 & 12, Block A, Period-V
element of fire over it have been encountered. All these components purports to gold smithery work. The mould (Reg. no. 13600; Pl. 6.20) bears elaborate ornamental device on its four faces; one of the faces shows an image of Śālabhanjikā, reminiscent to the one seen at over the torana as bracket figure at Sanchi. As per the epigraphical record on the western pillar of the south gateway, it is gathered that the ivory workers of Vidisa were commissioned in the decoration (rupakamma) of the toranas at Sanchi1. The mould representing Śālabhanjikā, has been used by the gold smiths at Adam in preparing the image in repousse technique.

**COMPLEX OF STRUCTURES NO. 7, 8, 9, 10, 11 AND 12: (Pl. 6.22; Fig. 6.18)**

The complex is noticed in the cuttings of F14, G14, H14, G15 and H15 which revealed structures laid in traikutasālīi type of plan which includes structure no. 10, 11, and 12. The complex comprises of three houses, each facing a common courtyard in the centre while another group of two houses, structure no. 7 and 8 face east. In the cuttings of G15/3 and 4, H15/3 and 4 activity of an earlier phase is noticed in the form of a public drainage system (structure no. 9) to which house drains are connected (Pl. 6.22, Fig. 6.18). The drainage of both the houses and public drain are made of burnt bricks set in mud mortar, while remaining structures of the complex are of random rubble, set in mud.

**Structure 7:**

It is a three roomed barrack like structure each with independent entrance towards east. It is laid parallel to structure no. 11. There is a service lane between the two structures. The central room measures 3.20 x 2.30 m, while the north one measures 2.40 x 2.50 m and south 2.10 x 2.30 m. The entrance to flanking rooms is 75 cm wide, while the entrance to central room is 1 m wide. The floor of the northern flaking room is partially pitched with random rubble.

The thickness of the wall varies from 40 cm to 45 cm. Over the dwarf walls, the postholes are seen on the north-south running wall, indicating a lean-to-type of roof. This barrack like structure might have served as activity cum storage area of certain commodities.

**Structure 8:**

It is a single room east facing unit of rectangular type structure, laid in trench no. H15. The room has a 0.70 m wide entrance and measures 3.50 x 1.80 m. The dwarf wall of the cell is 0.60 m thick. It possibly has served a shelter cum storage of certain activity.

**Structure 8A:**

A rectangular structure on plan, consisting of a cell and open veranda, reported from the cuttings of trench no. H16/1 has been identified as bead maker’s house. The floor of the veranda has reported two rectangular stone blocks, one bearing parallel groove marks, formed due to constant rubbing of beads (Pl. 6.23), and the other has glossy finished surface (Pl. 6.24). Apart from this, the floor has reported raw material, as well as finished and unfinished beads.

**Structure 9:**

A public drainage system is noticed mainly in the cuttings of trench no. F15, G15 and H15. The main drain follows the natural slope from east to west. Its eastern end is found robbed while the western end could be traced only to a length of 20.05 m. The exercise has brought to light three domestic drains, running north-south, terminating in the public drain at right angle at an equal interval of say five meters. Out of the three domestic drains, the

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Pl. 6.23: Bead polisher with finished and unfinished beads, structure no. 8A, Period-V

Pl. 6.24: Bead polisher in situ, structure no. 8A, Period-V
Fig. 6.13: Perspective view of a public drainage system with water chute, Period V.
eastern and western ends show elements of 'T' formation at the junction while the middle one provides details up to its source. At the source are noticed a damaged brick-paved bathing platform and a terracotta ring well measuring 90 cm in diameter attached to the platform. The nature of bricks laying near the ring well indicates that the drain has been purposefully deviated to north-west to avoid direct seepage of refuse water in the ring well, suggesting a better sense of hygiene. Also it seems that the space around the well has been paved with bricks.

In the construction of the main drain two important functional features are noticed. The upper course of the bricks laid from either side of the drain has their upper inner face chamfered smoothly showing curved feature, while a public works device of water chute is noticed in this drain as another significant feature. Here the water-chute is not as elaborate as noted elsewhere. It is of a stepped variety, wherein a stone slab is seen inserted in the drain bed in vertical order (Fig. 6.19). The purpose of such a provision in drain is to aggravate the flow of refuse water towards the slope and at the same time, to prevent the overflow of drain bed from the lower level to upper level. Incidentally, the overall planning of the above noted drainage system appears analogous to a Harappan system noticed at Lothal.1

Structure 10:

As noted above, structure no. 10 is part of house complex comprising structure no. 11 and 12 in traikutaśālā order, opening in a central courtyard. Structure no. 11 is on the eastern flank of the courtyard while no. 10 and 12 are flanking from south and north side of the courtyard.

Structure no. 10 is rectangular on plan with three compartments showing one entry point measuring 1.30 m in the central room. The east and west flanking chambers show staggered opening in the central chamber measuring 3.70 x 3.50 m. In view of the wide entrance in the central room it is pressured that some voluminous commodities have been stacked or stored in this room. The east side chamber measures 3.70 x 2.50 m, while the west 3.70 x 2.00 m.

Structure 11:

It is a two roomed rectangular structure laid as a central part of traikutaśālā composition. Both the rooms have independent openings in the central courtyard. The larger room has 0.75 m wide entrance which measures 3.10 x 3.60 m. The smaller room measures 3.10 x 2.50 m. The walls of the structure are 0.60 m thick. It is interesting to note that the passage of 1.20 m is left on either side between the flanking structures, no. 10 and 12. It indicates a concept of judicious planning, wherein ventilation within the complex was of primary concern.

Structure 12:

Although a major portion of this structure, located in trench no. F14/2, G13/3 and 4, is robbed of, it is planned in correspondence to structure no. 10 to maintain symmetry. Accordingly, the plan of this structure has been restored in the drawing. The central cell measuring 3.50 x 3.00 m shows 1.10 m wide entrance, while the flanking cells are entered through staggered entrances from the central cell. The east flanking cell measures 3.50 m square while west one is a rectangle measuring 3.50 x 1.75 m.

Apparently, the central courtyard has some kind of screen wall on the western side with a wide entrance to allow entry of domestic animals and other commodities. The complex no doubt belonged to some important resident denoting societal hierarchy. Such type of highly ingenious

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Fig. 6.20: Plan of structure no. 13, Period-V
Structural Remains

Pl. 6.25: A view of structure no. 13, Period-V
plan of *traikutasālā* type has not been reported from other cuttings at the site. Hence it can be considered as an important structure to accommodate person of social order.

**(ii) BLOCK B (Fig. 6.16)**

Structures in Block B are exposed in two locations. A set of structures from structure no. 13 to 18 is exposed to the west of lane 1, near the eastern entrance to the rampart, while the second set from structure no. 19 to 27 to the east of lane 2, both apparently, forming part of the settlement in the south-eastern sector (Fig. 6.16).

Apart from locating a few more new types of house complexes and identification of craft activity areas, the most significant contribution of this block is the identification of the first stable from the excavations. The types of structures include a group of four circular stone silo platform, semi circular structure, elliptical structures, house complex having a common courtyard and wells. The building material used largely is random rubble, with occasional use of burnt bricks and tiles.

**Structure 13: (Pl. 6.25; Fig. 6.20)**

It is one of the best laid out house at the site, located in the cuttings of M6. On plan, it is of L-shape, consisting of five rooms, out of which four are accessed through L-shaped corridor, while the fifth directly through the courtyard. The courtyard is partially paved with burnt brickbats. There is a stone and brick lined drain along the periphery of the corridor for channelising the wet refuse. The layout of the house is more squarish than rectangular measuring 9.30 × 9.00 m.

Two rooms, facing north and other two facing east are entered through a covered corridor. There are noticed two in-built benches, one abutting the rear wall of a corner cell and another at the terminal end of the corridor. Such benches have been noticed in the context of rock cut cave architecture of western India. Such structural features add value to the functional aspect of the house.

The longer span of the one metre wide L-shaped corridor measures 5.25 m while the shorter 2.50 m. The room on the eastern side has 0.80 m wide entrance. The room with in-built bench measuring 1.30 × 0.35 m of burnt bricks with stone packing, measures 2.35 × 1.45 m. The next room measures 2.35 × 2.50 m. The southwestern corner of the building is reinforced with heavy-duty stones, to prevent it from external thrust. Another sit out type of platform measuring 0.80 × 0.50 m is noticed on the exterior of the western sidewall. The next room without bench has reported a legged quern, generally used in lapidary work or in food processing. Another bench measuring 0.90 × 0.40 m is noticed in the south-western corner of the corridor. The room facing the bench has an entrance of 0.85 m and the interior measures 2.50 × 2.10 m. The fourth room in the corridor with an entrance 0.70 m wide, measures 2.50 × 1.10 m. The fifth room having an opening of 1 m wide in the courtyard measures 4.50 × 2.45 m. In all probability, the fifth room has been used as cattle pen, keeping in view its size and direct excess through the courtyard. The house was possibly occupied by some noble person.

**Structure 14:**

It is a south facing rectangular stone structure, noticed in trench no. M5. It is aligned east-west and consists of two rooms, indicating independent entrances of 95 cm wide from the south side of the courtyard. The east side room is squarish measuring 3.20 × 3.00 m with a circular

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1. Refer plan drawings of Bhaja, Junnar, Kanheri etc., in S. Nagaraju, *Buddhist Architecture of Western India (C. 250 BC-AD.300)*, Delhi, 1981.
Fig. 6.21: Plan of Structure no. 19, Period-V

Pl. 6.27: A view of bead polisher and raw material seen over the floor of structure no.19, Period-V
Pl. 6.28: A view of structure no. 19, circular stallage of later phase, Period-V
stone platform of 1.20 m in diameter located on the left side of the entrance.

The room on the south side measuring 3.20 x 3.90 m has the provision of door sill of stone at the entrance. It has an intermittent partition wall terminating over the platform of a ring well. Next to it, there is another ring well of lesser diameter (Fig. 6.16).

**Structure 15:**

The east facing single room measuring 2.85 x 1.60 m cell like structure is located in trench no. M5/2. The room has a ring well, bordered by stone slabs. Another ring well is seen adjacent to the entrance towards the left exterior wall.

Here, it is quite apparent that ring wells serving as source of potable water are set in enclosures to have proper control over the precious commodity and prevent misuse and contamination.

**Structure 16: (Pl. 6.26; Fig. 6.16)**

A set of four circular stone bin platforms of 1.70 m in diameter is located in the cuttings of trench no. N5. These platforms have stone outlines pitched in circular alignment, while inner portion is filled with random pitching.

**Structure 17: (Pl. 6.26; Fig. 6.16)**

A rectangular stone structure measuring 3.85 x 3.35 m having an entrance of 1.00 m wide is located in trench no. N5/2 with an arm extending in trench no. N4/3. Since the structure is built in the slope, the northern half of it is eroded.

**Structure 18: (Pl. 6.26; Fig. 6.16)**

A semicircular bow-shaped stone structure consisting of one circular platform of 1.70 m diameter is located in trench no. N5/3. In subsequent phase, another circular platform of 2.75 m in diameter is superimposed on the existing structure. The purpose of having such larger platform could be for stacking commodities.

**Structure 19: (Pl. 6.27-28; Fig. 6.21)**

It is located in trench no. E7/2 and F7/1 and 2. As usual, this elliptical structure is segmented into three compartments. The main entrance measuring 90 cm is on the north side of the central cell measuring 3.90 x 2.55 m. The two compartments towards the apsidal end of the structure are of identical sizes measuring 3.90 x 2.55 m. Both the cells have staggered entrance through the central cell. This house has been attributed to bead maker, as the floor of the house has reported a bead polisher and a couple of cobbles, together with a basin used as fire pit for heating the material in the process of bead making (Pl. 6.27-28, Fig. 6.21).

In the second phase, the western portion of the elliptical structure has been superimposed by a composition of four circular bin platforms or stallage for stacking and marketing, possibly surplus agricultural produce. These platforms show a diameter of 1.70 m and height of 0.50 m. On the southern side of the platforms is noticed a circular masonry pit, possibly for storing water.

**COMPLEX OF STRUCTURES NO. 20, 21, 22, 23, 24, 25 AND 26:**

(Pl. 6.29-30; Fig. 6.22-23)

These structural activities are located in the cuttings of trench no. E7/3, F7/3 and 4, F8 and G8. It is one of the largest house complexes with a courtyard in the centre. In the backyard of structure no. 20, there is a draw well (structure no. 20A) for the supply of potable water. Likewise, there is a stable (structure no. 21A) behind structure no. 21 (Pl. 6.30, Fig. 6.23). Structure no. 20 B has been
Fig. 6.22: Plan of structure no. 20-26, Block-B, Period-V

Structures of Period V
Block B
Pl. 6.29: A view of structure number 20, 21, 22 and 24 with a tile paved courtyard in the centre
Structural Remains

identified as working floor of the bone point markers.

Structure 20:

The structure no. 20 is located on the northern margin of the courtyard. The south-eastern portion of the structure is relatively better preserved, thus helped in determining the layout of the partially robbed and unexcavated portion. The staggered entrance from north side has a couple of intermittent walls, serving as screen. It has a provision of extended porch in the courtyard. The two rooms towards the eastern side with independent entrances are approached through a rectangular veranda of 1.40 m wide. The room on the extreme east measures 2.30 x 2.50 m while the next 3.50 x 2.50 m.

Structure 20 A:

Towards the north-eastern fringe of the present structure no. 20 is located a circular well (structure no. 20A). The upper ten to twelve courses are in random rubble while the remaining lower sixty-five courses are in brunt bricks, set in mud mortar. Here, an interesting feature noticed is an oblong undressed shale stone slab (Pl. 6.76), found in dislodged situation in two pieces at the mouth of the well measuring 1.10 m in diameter. This slab bears eight groove marks towards the profile of longer axis. Apparently, this slab originally was laid across the well to serve as footrest at the time of drawing water. The groove marks formed in the profile of the longer axis of the slab are due to the constant friction of rope while drawing water from the well (Pl. 3.1).

Structure 20 B: (Pl. 6.31-32)

Associated with the activities of structure no. 20, a floor has been reported in the cuttings of G7/2 and G7/3 which was littered with unfinished and finished bone points. It appears that in the centre of the floor, there was a stone anvil (Pl. 6.31) on which cylindrical bone pieces were chipped off and dressed with the help of iron chisel.

Structure 21:

A west facing rectangular three roomed structure measuring 8.70 x 6.00 m with a veranda in front is located in the cuttings of trench no. F8/3, F9/2 and 3 and G9/1 and 4. Along the southern and eastern axis of the wall, an L-shaped alignment of shale stone is noticed, which possibly has served as re-enforcement to toe-line of the plinth wall from outside. It is a device followed to strengthen the open mode of foundation. However, drain like feature is noticed between the passage of structure no. 20 and 21 as an outlet of refuse water from the courtyard. The veranda measuring 7.90 x 1.40 m has one entry point, while the rooms have independent entrance of 1 m wide through the veranda. The central room measuring 3.50 x 2.95 m is relatively bigger than the flanking rooms of identical size measuring 3.50 x 1.95 m. A pilaster or bench like feature is noticed on the left inner side of the entrance to the central room. The floors of the rooms and veranda are specially treated with lateritic gravel (Pl. 6.29-30, Fig. 6.22-23).

Structure 21A (Stable): (Pl. 6.30; Fig. 6.23)

The structure no. 21A in the form of a heavy duty stone floor of oblong shape measuring 8.40 x 3.30 m is located behind structure no. 21, in the cuttings of G9/2, 3 and 4. The floor is planned together with structure no. 21, as their alignment is in conformity to each other. This floor has been recognized as stable.

It is equipped with specially designed heavy duty shale stone floor to withstand the pressure of its constant use as stable. The floor contains a circular masonry stand to support fodder trough. The floor has reported findings of horse outfit for which it has been regarded as the first ever excavated stable of the Satavahana times.
Excavations at Adam
Fig. 6.23: Above heavy duty stone floor with postholes used as stable, Structure No. 21A, below Structure No. 21 with a forecourt used as industrial activity area.
Excavations at Adam

Pl. 6.31 : Bone working space marked with bone debitage and stone anvils seen on the left margin Tr. No. G7/3, Period-V

Pl. 6.32 : Bone working space with debitage, Trench no.G7/2, Period-V
The floor has reported horse outfits like stirrup, horseshoe and rings made of iron. The postholes seen within the pavement indicate the purpose of tying the horse, while those located towards the margins were supporting the lean-to type of shade over the stable.

Structure 22:

It appears to be a residential unit, camouflaged by structure 24. Partially, the structure is located in the cuttings of trench no. F9/3 and 4, F10/1 and 2 and partially in to G9/4 and G10/1. It has an array of three inter connected rooms in a row entered through the west side. Parallel to the row of three rooms, there is a rectangular hall measuring 5.90 x 2.80 m on the southern side. This possibly has an entrance measuring 0.80 m wide through two parallel back rooms measuring 3.50 x 2.10 m. The adjoining two rooms measure 3.50 x 2.40 m and 3.50 x 2.40 m respectively.

In the subsequent phase over the walls of the existing room at the back, was constructed a terracotta ring well, which was skirted by voussoir type of burnt bricks measuring 36 x 20 x 8 cm arranged in receding tiers of 1.90 m in diameter.

Structure 23:

Structure no. 23 is again a usual group of four platforms used as silo; three of them are exposed in trench no. G10/1. The diameter varies from 1.60 m to 1.80 m with a height of 0.60 m.

Structure 24 and 25:

These two structures are elliptical on plan, have been exposed partially in trench no. E9/3 and 4, F9/4 and F10/1.

1. The Kushana levels at Sonkh have reported circular platforms made of brick-bats measuring between 1.25 m and 3.00 m in diameter, partly covered with layers of gray black ashes, have possibly been used as silo; refer Herbert Hartel, Excavations at Sonkh, Berlin, 1993, p. 57, fig. 58.

Structure 24 is constructed of random rubble set in mud mortar. It has as usual three compartments. However, a major portion of the structure no. 25 remains unexcavated. The northern apsidal end of the structure has revealed superior quality of construction wherein over the random rubble courses is noticed a course of burnt bricks measuring 58 x 35 x 8 m. It is significant to note that this structure (structure no. 25) is later in construction as it is laid parallel to north-south alignment to the cutting line of trench no. E9/4.

Structure 26:

It is a large building facing the courtyard, from west side, which is located in the cuttings of E8/3 and 4 and E9/1 and 2. Except the group of four circular platforms, the enclosure wall and the corresponding antechamber are completely robbed of. On plan, the structure has a central hall measuring 5.55 x 5.25 m enclosing four circular silo platforms of 1.50 m in diameter and a height of 0.35 m. In the southern antechamber measuring 3.25 x 2.15 m is unearthed a terracotta ring well of 85 cm in diameter, skirted by random rubble. The floor around the ring well is tidy and firmly treated by lateritic gravel.

Towards the western side of the structure, there are three partitions. These partitions demarcate the activity areas of different stages pertaining to lapidary work, as one of the segments of the partition has reported bead polisher embedded to the floor.

The courtyard, which is intermittently paved with tile fragments and lateritic gravel, further provides the evidence of bead making. Towards the south-eastern corner of the paved courtyard are noticed lateritic gravel lined three U-shaped chulhahas for

2. Almost identical arrangements can be seen from Kushana level at Sonkh, Ibid., p.42, fig.45.
heating the material in the process of bead making. Next to the chulhas, a chamfered globular water pot is noticed embedded in the floor, which has been used for cooling the material. The fourth chulha is located in the corner of the projected entrance of the structure no. 20 (Fig. 6.22).

**Structure 27:**

Like structure no. 25, this structure is also laid in alignment to the cuttings of trench no. D8/3 and E8/4. It is rectangular on plan consisting two rooms oriented east west. The rooms have independent entry towards the north. Here also, over the random rubble courses is noticed a course of burnt bricks measuring 46 x 26 x 7 cm. The entry points are of 0.80 m wide while the structure measures 7.40 x 4.20 m. It is one of the well conceived buildings, but its function could not be ascertained (Fig. 6.22). Apparently, it belongs to the last phase of the structural activity.

An identical type of two roomed rectangular structure of the Satavahana period has been noticed from the excavations at Ter showing lower courses of rolled stone followed by burnt brick courses1.

**(iii) BLOCK C**

Limited excavation in this block has brought to light two important structures, i.e. no. 28 and 29. Of the two, structure no. 28, being earlier in phase than the latter, deserves special mention. It is located on the southwestern intersection of lane 2 where it meets lane 3 at right angle, forming a T-like junction. It is an important lane on which the buildings are planned together with projected stepped entrances, on either side of the lane. Here, opposite to structure no. 28 can be seen structure no. 30, showing strict adherence to the alignment of buildings paralleled to lanes. Strategically, the location and planning of the two buildings place them in the category of identical type of public building.

**Structure 28:**

It is located in the cuttings of trench no. B6/3, C6/4, B7/2 and C7/1 and 2. Aligned to lane 3, the building is approached through flight of steps measuring 1.50 x 1.00 m from south side. The flight of steps, projected in the lane, is largely dislodged. It is entered through a covered porch measuring 2.15 x 1.15 m followed by a lobby measuring 3.10 x 2.35 m. There is a passage to the front veranda measuring 5.00 x 1.80 m through the guardroom, while the entrance to the squarish room of 3.10 m and two antechambers measuring 3.10 x 1.50 m is through the lobby. The squarish room has an opening in the rear covered space measuring 5.00 x 1.60 m. The interconnecting passages are 0.85 m to 0.95 m wide (Pl. 6.35, Fig. 6.24).

**Structure 29:** (Pl. 6.35; Fig. 6.24)

In the cuttings of trench no. A6/3, B6/4, A7/2 and 3 and B7 lies structure no. 29 which is located immediate west of structure no. 28. It is a construction of last phase as the structure is not aligned to the structure no. 28. It is an important structure, planned in a linear order with segmented rectangular compartments. In B6/3, and B7/1 and 2, tiny blocks of construction are noticed, which might have served as small rooms for storing valuable items. Here, also over the random rubble courses, a layer of bricks has been laid.

The overall planning suggests its function as a warehouse2. The elongated structure with segmented veranda on either side possibly suited the requirement of the warehouse measuring 11.80 x 6.30 m, where surplus agricultural produce was kept for marketing. There are in-built brick platforms on either side of the

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2. Evidence of warehouse from the early Historic period has been reported from Arikamedu. Wheeler, *Arikamedu, AI*, no. 2, 1946, pp. 24-26, pl. XIII.
Pl. 6.34: A view of lane-2 and lane-3 forming a T-point; on either side of lane-3 entrances to structure no. 28 & 30 seen, Period-V
Fig. 6.24 : Distribution of structures on either side of lane-3, Block-C & D, Period-V
Pl. 6.35: A view of Structure no. 28 and 29, Period-V
veranda being used for stacking grains. One heavy duty stone platform facing the lane had also served the same purpose. The building has an entrance of 1.00 m wide from south side. On plan, it shows a central hall measuring 5.70 x 3.30 m and antechambers on the west measuring 3.30 x 1.05 m and east measuring 3.30 x 4.25 m. The rear portion of the building has four rectangular chambers. The superstructure can be reconstructed as of lean-to type having thatched variety of roof.

(iv) BLOCK D

Structures of Block D are located virtually in the central area of the settlement. The locality has reported structures of more than one phase. The structure no. 30, aligned to lane 3, is the most imposing building at the site. The other varieties of structures noted on plan are circular, elliptical, rectangular and squarish. These structures are not planned in accordance with the alignment followed by structure no. 30. Some of these structures have been planned haphazardly in different phases of construction, and perhaps planned from the angle to suit accessibility criteria as well as operational requirements. The other significant structure identified in this block is dyeing vat (structure no. 33).

Structure 30: (Pl. 6.33; Fig. 6.24)

The structure no. 30 has been identified as a building attributed to Mahasenapati Vindhyashakti because maximum numbers of lead coins bearing his name are reported from the sediments of structure no. 30 and structure no. 28.

Structure no. 30 follows the axis of lane 3 and is located in the cuttings of trench no. A5/3, B5/2, 3 and 4, A6/1 and 2 and B6/1 and 2. It is primarily tri-linear on plan, consisting of two wings, east and west, each with a separate entrance from lane 3 of 4.90 m wide. The east and west wings, complimenting each other have been possibly used as upper and lower units of administrative purport. For example, the partitioned veranda of west wing and compartments behind in two rows in both the wings are conceptualised to meet the functional requirement of an administrative building. The front veranda might have served the purpose of receiving the people and small chambers possibly had functioned as record room. However, the compartmentalization of the two wings is not only functional but also done for the stability of the superstructure. The central span of the longer axis of the structure is seen with postholes at desired intervals to support the central bay and lean-to type roofing over veranda and porches.

The porched entrance in the west wing is accessed through a guarded enclosure, leading to the main hall measuring 6.20 x 2.10 m. Further west of this hall are noticed a subordinate room measuring 4.50 x 2.10 m with an antechamber measuring 2.10 x 1.50 m, perhaps meant for functionaries and keeping records respectively. The east wing is also accessed through a porched entrance leading to the central room measuring 5.00 x 2.10 m flanked by two antechambers. The flanking chambers on the west side measures 2.10 x 2.10 m while east side measures 2.10 x 1.40 m. The five rooms at the back of the central vista are possibly used as office cum record room, each measuring from left to right, 1.50 x 3.00 m; 3.30 x 3.00 m; 2.60 x 3.00 m; 3.10 x 3.00 m and 1.70 x 3.00 m.

Structure 31: (Fig. 6.24)

It is located in the cuttings of trench no. X A4/3 and 4, XA 5/1-4, and A5/1 and 2. This structure measuring 11.50 x 11.90 m is L-shaped on plan and reminiscent to structure no. 13. Here, two major structural phases are noted. In the first phase, five roomed structure with a courtyard measuring 7.90 x 6.20 m extending north-south was planned. The
Excavations at Adam

Pl. 6:36. Dying vars, structure no. 33 and 34, Period V.
rooms in east-west alignment are interconnected with one entry point, while the north-south aligned rooms have separate entry points of 0.90 m wide. The room on the northeast intersection was subsequently furnished with a random rubble masonry platform measuring 3.10 x 2.90 m for stacking purpose. The south facing rooms on the extreme left measure 3.30 x 2.70 m; the middle one measures 3.45 x 2.70 m and the one on the right intersection measures 3.85 x 2.20 m. The two rooms facing west measure 3.10 x 2.75 and 3.10 x 2.40 m respectively. The well of 1.00 m in diameter dug in the courtyard has its upper ten to twelve courses in random rubble masonry and the rests are in burnt bricks. The last course couldn’t be traced because of the sub-soil water.

Apart from the platform in the intersecting room, a set of circular platforms, apparently built prior to this L-shaped building, is also exposed.

Structure 32: (Fig. 6.24)

It is located in the cutting of A3/4, A4/1 and 4 and A5/1. It is built virtually back to back in the alignment of structure no. 31, leaving 1.50 m wide service lane between the two. Originally it is linear on plan, extending north-south, consisting of three rooms each having independent entrance of 0.90 m wide towards east. Subsequently, a T-shaped block is added to the structure from north side, perhaps to meet the functional requirement of storage. The rooms from south to north measure 3.00 x 2.80 m; 3.70 x 2.80 m and 2.80 x 2.50 m respectively. The wedged shaped enclosure measuring 2.10 x 1.80 m attached to the two squarish rooms of 2.00 m has reported a silo skirted by burnt bricks of 0.60 m in diameter.

Structure 33 and 34: (Dyeing vats) 
(Pl. 6.36; Fig. 6.24)

A couple of remains of brick structures, located in the south-western part of habitation are identified as dyeing vats. The two dyeing vats are located in the cuttings of trench no. XA3, A4/1 and 2, XB3 and XB4. Both these units seem to have been managed jointly by a dyer family as the two units have a common soakage pit where the wet refuse of the two units were discharged. The soakage pit is specially designed from the point of view of waste disposal mechanism. It is a squarish pit of 4.30 m filled with medium to coarse type of fragmentary terracotta tiles up to the base line of the two outlets projected in the pit. This is done for quick absorption of refuse waste dye and prevents the surroundings from filthy smell.

Structure no. 33, relatively better preserved than the structure no. 34, reveals a burnt brick paved squarish yard of 9 m of which the south-eastern portion is completely bereft of bricks due to robbing. It is partially built over the debris of stone structures of the preceding phase. Towards the northern margin of the yard, a brick paved covered drain is noticed running east to west. A vertical brick resting over its drain bed is noticed at the beginning of the drain which possibly served as water chute. It is laid with a view to prevent the spill of liquid waste over the floor. The drain has three side courses while the fourth is laid across the channel, serving as cover. The size of the bricks used is 51 x 28 x 8 cm.

Across the northern part of the brick paved yard, there are indications of four circular outlines of pits in the floor distributed in equal number on either side of the drain. These circular pits are the remains where the vats filled with dye were partially embedded. Another pit for positioning the vat is noticed on the western flank of the yard. Of the two pits, one on the south-eastern corner and the other on the western margin are of smaller diameter. In these two pits, vats of corresponding diameter were embedded for storing colouring agent.

The laying of covered drain across the floor has been ingeniously designed to
Pl. 6.37 : Cesspit, structure no. 34A, Period-V

Pl. 6.38 : A view of structure no. 35, Period-V
Pl. 6.39: Circular structure no. 36, Period-V

Pl. 6.40: A set of four circular stalling structure no. 38 & 38A, Period-V
match its function. As noted earlier, the drain at the source has been provided with a vertical brick to prevent the spill of liquid waste over the floor. It runs straight up to a distance of 2.80 m. thereafter it has been given a gentle S-curved turn and finally has been laid to terminate straight in the specially designed soakage pit. The drain has a gradient of 30° if measured from the sources to outlet. The base of the outlet is fitted with a projected stone slab. The gradation in the drain bed is designed with a purpose of quick disposal of waste dye. Likewise, the S-like turn in the drain is given to prevent vent of filthy smell of the waste dye to travel across through covered drain to the dyeing area.

Further, the northern flank of the pavement has also reported signs of postholes of 18 cm to 20 cm in diameter distributed across the open area of the drain. These post holes, in all probability, were supporting parallel bar like wooden structures for hanging dyed wet cloths, for sometime, to allow dripping in the drain area.

Structure 34:

As stated above, the remains of another dying vat is recorded in the form of brunt brick drain, running from south to north and terminating into the same soakage pit where the drain of structure no. 33 was merging. Here, the side walls of the drain are laid in corbelled order to support the casing. A major portion of the drain is damaged due to erosion and robbing of bricks.

Structure 34A:

The cuttings of trench no. XB2/3 has reported a rectangular cesspit for the disposal of refuse. The cesspit is outlined by random-rubble and brick masonry. It has an overhanging covered drain consisting of two brick courses with a projecting tongue of stone slab which has served as conduit for the refuse to discharge in the cesspit (Pl. 6.37).

Structure 35:

It is a squarish brick enclosure measuring 5.00 m of six courses raised around a set of four circular bin platforms of 1.70 m in diameter with an exposed height 45 cm. The size of the bricks used are 40 x 25 x 8 cm and 41 x 26 x 8 cm. The enclosure has served the purpose of safety to bin platforms. There is an unusual intermittent wall between the bin platforms, running north-south. However, the entrance to the enclosure is from the south side (Pl. 6.38).

Structure 36: (Pl. 6.39)

It is a circular structure of 4.90 m in diameter of random rubble, located in the cuttings of trench no. A3/3, A4/2, B3/4 and B4/I. It has six courses, which are largely robbed, yet an entrance on the western side can be noticed. It belongs to the early phase of occupation of period V.

Structure 37:

Contemporaneous to the structure no. 36, it is located in the cuttings of trench no. B3/3. It is circular on plan of 5.25 m in diameter encircling four circular platforms of 1.80 m in diameter. The enclosure to the bin platforms is largely robbed. The inner floor is treated with mud. The maximum number of courses noted in the structure is four while the height of the wall is 32 cm (Fig. 6.24).
Structural Remains

Pl. 6.41: Community kitchen area structure no. 38B, period V

Pl. 6.42: Three plastered clay ring bases for holding pitchers
Structure 38:

It is a rectangular structure measuring 9.80 x 4.25 m, located in the cuttings of trench no. A4/2 and B4/1 and 2. It has clay treated open foundation over which, there is a single course of random rubble masonry (Pl. 6.40). It is a later phase activity as compared to the structure no. 38 A.

Structure 38A:

It is a set of four circular bin platforms located below the structure no. 38. It is found partially robbed. A single coursed masonry lining on the western side indicates an improvised enclosure for these platforms. The bin has six to seven courses of random rubble, set in mud mortar, showing a height of 50 cm (Pl. 6.40, Fig. 6.24).

Structure 38B: (Kitchen Area)

A unit of three U-shaped chulhas is exposed in the cuttings of trench no. C4/1, sealed by layer 3. The chulhas are built over a mud floor and aligned in east-west direction, with an opening in the south. The central chulha measures 35 x 15 cm while the eastern one, slightly damaged at the mouth, measures 25 x 20 cm, and western measures 35 x 15 cm (Pl. 6.41).

Incidentally, in an adjacent cutting of trench no. C4/2, an extension of floor of kitchen has been noticed. It represents a row of three clay rings embedded over the plastered mud floor occasionally pitched with terracotta tiles and pottery. These clay rings bear layers of occasional mud plaster, the core of which is coarse. These are ideal ring bases which might have served as a stand for the water pitcher (Pl. 6.42). Therefore, the evidence of three chulhas together with the stand of water pitcher found embedded over the extended floor may suggest that the area might have been used as activity zone of a kitchen.

Structure 39: (Dyeing Vat)

A paved burnt brick drain, joined to a deep brick lined soakage tank, is surfaced in the cuttings of trench no. A4/3 and B4/4 as last phase of structural activity, contemporary to the activity of structure no. 33 and 34 (dyeing vat)1. The drain has a gentle slope towards the tank located in the east. The source of the drain on the western side can not be determined as it is eroded. However, the existing length of the drain terminating into the tank is 7.00 m. Originally it was planned as covered drain. The bed of the drain measures 20 cm deep and 30 cm wide. The squarish soakage tank of 1.50 m consisting of thirty two brick courses is found unpaved at the base. The sediments exhumed from the tank are of pale green colour possibly due to the chemical reaction of the waste dye. The deposit is free from potsherds and other household items, which indicates that the tank was covered and fully secured from the top. The upper four brick courses of the tank are laid in slanting mode showing recessed feature. Apparently, the treatment in laying of upper courses show an external projection towards the mouth of the tank. The bricks used are of 52 x 23 x 8 cm; 50 x 23 x 8 cm; 48 x 26 x 8 cm and 45 x 24 x 8 cm (Pl. 6.43-44).

As regards the function of the tank, it can only be said that it was a part of an additional complex of dyeing vat activity where the disposal of effluence in covered tank was a compulsion not a choice. On this count, the present tank and the drain can be regarded as part of the third dyeing vat at the site, contemporaneous to the two dyeing vats numbered as structure no. 33

1. The excavations at Arikamedu have reported similar brick lined pit used in dyeing, besides other features of vats, Wheeler, Arikamedu, Al, no. 2, 1946, pp. 27-32, pl. XXI-B.
Pl. 6.45: Structure no. 40, Period-V
Pl. 6.46: A pit silo (Granary), structure no. 40 A, Period-V

Pl. 6.47: A pit silo (Granary) showing remains of grains, structure no. 40 A, Period-V
Fig. 6.25: Structure no 41, Period-V

Pl. 6.48: Structure no. 41, Period-V
and 34 and located in the close proximity of say 5 m north-west to each other.

**Structure 40: (Pl. 6.45; Fig. 6.24)**

It is an elliptical structure, located in the cuttings of trench no. B4/3, C4/4, B5/2 and C5/1. Aligned east-west, it is built over a regular footing of lateritic gravel. The masonry is random rubble, set in lateritic soil mixed with gravel. It has an entrance of 1 m wide in the southern wall of the central cell and as usual showing three compartments. The central hall measures 4.80 x 3.60 m, while the apsidal chambers on either sides measures 3.60 x 1.80 m. Both these flanking chambers have staggered entrances from the central chamber. Traces of postholes in the central alignment on either elliptical ends and on corresponding partition walls indicate vaulted type of roof as superstructure.

Interestingly, as noted above the elliptical structure is aligned east-west has reported a circular masonry platform attached to the western apsidal end of the cell serving religious purport may not be ruled out. This feature has not been noticed in any of the elliptical structure excavated at the site. This apsidal cell with platform may have served as sanctum-sanctorum of a temple. Incidentally, there is a terracotta ‘ring well’ (60 cm) embedded in the southwestern corner floor of the main hall which might have served the function of a storage container. As its upper ring has foliage motif of almond shape, of which the inner space is filed with moving elephant to right (Pl. 6.45A). The third ring well noticed in the cuttings of trench no. B4/3 is of later phase as it is laid over by cutting the northern wall of the elliptical structure. It is exposed up to six rings to a depth of 1.65 m. Since the upper ring of the well is plain and the lower course of the ring is left excavated, its function either as refused pit or as draw well can be considered.

**Structure 40A Pit Silo : (Pl. 6.46, 6.47)**

A pit silo for storing grains is reported in the cutting of trench no. C5/1 (Pl. 6.46). It is in the form of a circular pit chamber with aslant sidewalls, which bear evidence of mud plaster. It appears that the plaster granary met with an accidental fire, which has resulted in burning of the grains. Due to fire the sidewalls have turned red. The layer 3 has sealed the chamber of the granary, which contains four globular vases placed on its floor. Out of four, two vases contain charred wheat and two are empty (Pl. 6.47). It seems that grains were rescued in bulk before the fire broke. Two lids recovered on its floor indicate that some vases containing grains were of narrow mouth and were covered with these lids.

**Structure 41: (Pl. 6.48; Fig. 6.25)**

An unusual type of elliptical structure, aligned east-west is located in the cuttings of trench no. A1 and B1/1 and 4. Apparently, it is a paved enclosure measuring 10.60 x 6.50 m consisting of four circular platforms of 1.35 m in diameter. The structure has 90 cm wide entrance on the eastern side, and is perhaps used for storage purpose. The number of courses noted in the enclosure wall is eight having a maximum height of 75 cm.

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1. A votive structure of Kushana period reported at Sonkh may be seen for comparison of vaulted roof over an elliptical structure, Hartel, op. cit, p. 199, fig. 139 & 136.

2. Circular pit silo with lime plaster from early Jorwe phase has been reported from Inamgaon, see M.K. Dhavalikar, *The First Farmers of the Deccan*, Pune, 1988, pp. 20, 44, pl. 8.
Fig. 6.26: Distribution of Structures in Block E, Period V
Excavations at Adam

Pl. 6:49: General view of structures distributed in Block E, Period V
(v) BLOCK E (Pl. 6.49; Fig. 6.26)

The structures exposed in this block are combinations of square, quadrangle, elliptical and circular type, indicating three structural phases. With a few exceptions, the stone structures are poorly made and largely robbed, while the constructions in bricks are well contrived. Here, the structure no. 45, 47 and 48 are aligned to the layout of the trenches while others are deviated 5° to 10° east.

Structure 42: (Pl. 6.50)

Apparently, the structure no. 42 and 43 are forming an obtuse angle on plan with a common courtyard in front. Reverting to the structure no. 42, it is a south facing building of three rooms and is spread in the cuttings of trench no. ZA3/1 and 2, ZA4/3 and 4 and ZB3/1. Aligned east-west, the three rooms are built in brick and set in mud mortar. The central and east side rooms possess direct access from the courtyard while room to the west possibly has restricted entry through the central room. The structure has been raised on clay-lined footing of which ten courses are located in the northern and eastern walls. All the four walls including the partition walls show the mark of postholes indicated by the semicircular grooves, cut in their outer and inner faces. Occurrence of posthole grooves at short intervals, over the walls suggests maximum use of wooden posts over the dwarf wall of brick to reduce the effect of temperature, besides it also indicates the roof over the building was at low height, held by a horizontal purlin running across the longitudinal span of the building, intersected by the rafters. The rooms, almost of equal size measuring 3.50 x 2.50 m, are used for storage purpose, however, a terracotta inkpot is surfaced from the south-eastern corner floor of this structure, possibly indicates its function as working place of a scribe engaged in marking documents or consignments besides storing them. This could be identified as house of penmen.

Structure 43: (Fig. 6.26)

This structure is located in the cuttings of trench no. YA3/2, 3, YA4/3, ZA3/1, ZA 4/4. Aligned north-south, the structure consists of central hall measuring 6.80 x 3.00 m flanked by two equal size rooms measuring 2.90 x 3.00 m. Each has an independent entry from east side. Room on the northern flank is used sparingly as it is camouflaged by the western axis of structure no. 42. Relatively, the said room is better built with stone courses overlain by a brick line masonry, while remaining portion of the structure in stone is largely robbed. However, traces of pavement of brickbats are seen in the southern room.

Structure 44: (Fig. 6.26)

A single roomed cell, quadrangular on plan, is located in trench no. YA3, 1 and 4. It has a 2.10 m wide opening from the western side wall. The opened front of the structure suggests its use as barn or cattle pen measuring 4.10 x 3.00 m. Rear and sidewalls of the enclosure is completely robbed of, which has supported a thatched roof projected towards west.

Structure 45 & 45A: (Pl. 6.52; Fig. 6.26)

It has revealed two phases of structural activities, wherein over a rectangular structure no. 45, a set of four bin platforms is constructed at a later stage (Structure no. 45A). The activity is located in the cuttings of trench no. YB3. On plan, it is a rectangular building measuring 9.00 x 4.00 m consisting of a central hall and an antechamber on the south with a passage through the hall. The building has been used for storage purpose. In later phase, four bin platforms of 1.50 m in diameter with regular stone pitched pavement were added over the rectangular storage building. The bin platforms have eight courses in random rubble, set in mud mortar.
Excavations at Adam

Pl. 6.50: A view from southern side showing brick lined ring well part of structure no. 50 & three roomed structure no. 42, Period-V

Pl. 6.51: A view from south-western corner, structure no. 50, Period-V
Pl. 6.52 : A view of structure no. 45A and other Structures, Period-V
Structure 46 and 49: (Fig. 6.26)

A couple of elliptical enclosures of identical type are noticed on plan, extending east-west and running parallel to each other with different disposition. The two enclosures are without any partition, but each has an entrance from the south side. The structure no. 46 is located in the cuttings of trench no. YB4/3 and 4, YA4/4, YA3/1 and YB 3/2. It measures 8.65 x 5.50 m. Near the entrance of 1.30 m wide, four courses of random rubble are noticed.

Structure no. 49 is partially exposed in the cuttings of trench no. YB4/2 and YA4/1. A major portion of the structure is robbed and the remaining portion on the northern side remains unexcavated. However it is larger in size measuring 11.00 x 5.00 m while its entrance of 1 m wide which is narrower than the former. There is no definite sign to suggest the function of these two structures; however, it is plausible to be used as storehouses.

Structure 47: (Fig. 6.26)

Eastern half of this structure has been exposed, showing an entrance of 1.00 m wide in the central part of the eastern wall. It is located in the cuttings of trench no. YC4/3 and YB4/4. The extent of the room exposed measures 4.00 x 2.90 m. It shows good quality construction in random rubble masonry.

Structure 48: (Fig. 6.26)

The quadrangular brick structure measuring 11.10 x 4.60 m is noticed over the two above noted elliptical structure (structure no. 46 and 49). It is aligned east-west with an entrance of 1m wide from the south side. It is spread in the cuttings of trench no. YB4/3, YA4/3 and 4 and YA3/1 and 2, and is neatly built over clay footing. A major portion of the structure is largely robbed off out of which three courses of bricks are noticed. On plan, it has a central hall measuring 6.50 x 4.50 m with antechambers on either flank of equal size measuring 2.00 x 4.50 m possibly each has an entrance of 1 m wide from the central hall. The excavation has not revealed any particular item to indicate its function.

Structure 49: (Fig. 6.26)

It is described together with structure no. 46 (see above).

Structure 50: (Pl. 6.50; Fig. 6.26)

It is a random rubble masonry structure noticed in the cuttings of trench no. YA 4/2 and 3, ZA4 and ZB4/1 and 4. On plan, it is more like a trapezoid with a forecourt on north side. Here, four rooms are aligned in east-west direction, each has independent access of 1.00 m wide through the forecourt; however, the entrance to the room measuring 4.00 x 1.60 m on the western flank is marked by a doorsill. The squarish room of 4.00 m next to it with a brick well of 1.60 m in diameter of 52 courses, indicates activity area opposite to its entrance. The activity area located in front of the squarish room is partially paved with terracotta tiles and strengthened by lateritic gravel. Over the floor is noticed a U-shaped fire chamber and couple of stone blocks which have served as anvils. The floor has reported one iron dish close to the activity area. The adjoining cell has been possibly used as store. The rectangular central hall measuring 4.00 x 6.00 m has another brick lined ring well of 80 m in diameter with projected platform of random rubble, possibly used as silo. Towards the western partition of the room, a circular platform in random rubble is also noticed serving as a base of a bin. The east flanking room measuring 4.00 x 4.45 m is opening into a corridor. On the other side of the corridor is located a privy enclosure. It is rectangular on plan measuring 4.30 x 3.00 m with a narrow entrance of 80 cm from south side. The partitioned chamber on the eastern part has a ring well of 60 cm in diameter, which has been used as privy...
Pl. 6.54: Well, structure no. 52, Period-V
Structural Remains

by keeping two wooden planks as footrests with an intervening gap.

**Structure 51: (Pl. 6.53, Fig. 6.26)**

It is an elliptical structure partially exposed in the cuttings of trench no. ZB5/3, in east-west alignment. The excavation has brought to light western apsidal end of the structure of four courses showing a couple of postholes.

**Structure 52: (Pl. 6.54; Fig. 6.26, 6.30)**

An elaborately planned community well of 1.10 m in diameter, situated towards the eastern margin of the courtyard is integrated to the structure no. 53. It is located in trench no. ZB5/1 and 4. The well of seventy courses, dug up to a depth of 5.90 m is built out of wedge shaped bricks, set in mud mortar. The upper courses have inturned inclination and the brick pavement around it has outward slope to prevent inward flow of spillage. Further, a row of three postholes is noticed on the northern and southern margins of the pavement, possibly to support a shade over the well. Parallel to these postholes are added parapet walls from north and south side. This provision is made with a view to regulate the movement near the well and allow the community to use the well from east and west side. Such type of arrangement has not been reported from the other excavated wells at the site.

**Structure 53: (Fig. 6.26)**

It is located in the cuttings of trench no. ZA5/2, ZB5/1, ZA6/3 and 4 and ZB6/4. It is a complex of four quadrangles measuring 14.90 x 3.5 m in random rubble masonry, set in mud mortar. It is a barrack like structure, sharing a common courtyard with the structure no. 54. The west flanking room is entered through the adjoining room, which has an access through the courtyard. The remaining two rooms are set face-to-face with an entrance across in the northern and southern walls. Both sides show marginal random rubble pitching in the floor, suggesting some industrial activities. Four courses in the construction are noticed in the western arm of the wall.

**Structure 54: (Pl. 6.55; Fig. 6.26)**

It is another barrack like structure, sharing courtyard with the structure no. 53. Aligned north-south, the structure is exposed partially in trench no. ZB6/2 and 3; however, a portion of it extending in trench no. ZC6 and ZC7 remained unexcavated. It is a stone built structure over clay footing, perhaps consisting of three rooms. The one on the southern flank has an opening in the adjoining room. Heavy-duty stones are seen used in the southern arm of the wall. However, its northern axis is running parallel to lane no. 5.

**(vi) BLOCK F : (Pl. 6.56; Fig. 6.27)**

Limited area has been subjected to excavation in the central-north part of the habitation area. The trenches laid in the southern slope of the rampart, covering an area of say 30 x 30 m, has reported a large remains of secular building complex consisting of three house blocks arranged in a row, but generally missing the alignment. However, the structure no. 55 is laid in the alignment of lane no. 5, running east-west. The structure no. 55, 56 and 58 are in rubble masonry, while structure no. 57 a brick construction.

**Structure 55: (Pl. 6.57; Fig. 6.27)**

It is located in the cuttings of trench no. ZF6, ZG6, ZH6, ZF7, ZG7 and ZH7. It is a large *wada* type profane building measuring 21 x 13 m laid parallel to lane no. 5 (Pl. 6.57). Such types of structures are consisted of rooms occupied by extended families or members of one patrilineage within a large single enclosure. It has an entrance from south side through an intercepted corridor of 1.60 m wide. The southern wall shows additional feature of
STRUCTURES OF PERIOD V
BLOCK F

Fig. 6.27: Distribution of structures in Block-F & G on either side of lane-5, Period-V
Pl. 6.56: Distribution of Structures in Block-F aligned to lane S, Period-V
Pl. 6.57: A view of structure no. 55, Period-V
reinforcement of an open foundation by adding a parallel course of random rubble along the edge of the southern wall, which ultimately had served as a bench along the wall. Such type of device on the one hand has served the purpose of a bench and on the other, strengthened the foundation of the structure. Even today similar mechanism can be seen in the villages of the neighbourhood. Likewise, occurrence of a wide semicircular stepped chandraśilā in front of the porched entrance of a building is another interesting feature comparable to modern day traditional houses (Pl. 6.57). The evidence of chandraśilā comes to light from the Malwa horizon excavated at Daimabad1, while the same has been reported in early Historical context at Sisupalgarh2.

There are five rooms on the southern flank, opening in the segmented veranda running parallel to the rooms on north side; but three rooms on the western margin are opening directly in the courtyard measuring 7.80 x 7.60 m. Towards the north-east portion of the courtyard is noticed an open enclosure, either serving the purpose of a barn or a cattle pen. Coincidently, similar location of a cattle pen on the northeast side of a structure has also been noticed in the structure no. 13.

Floors of the first two cells on the eastern and western sides of the porch entrance are treated with lateritic gravel soil. The first room on the right has reported a hoard of metal objects partially embedded in the floor. The hoard, placed in an iron pan, contain cluster of iron objects, together with two copper objects; one is the fragment of a horse head, produced out of hollow cast technique and the another is a solid ladle of outlandish origin akin to the one reported at Sambhar3. These two finds from the house indicate affluence level of the occupants as well as activities of ironmonger (Pl. 6.58).

The south-western corner of the building has reported a toilet area having a circular pit serving as privy; a bath space along with water pitcher and a covered drain of S-type terminating in the lane. The pit of the privy is pitched loosely in dry rubble masonry to allow absorption of wet substance. A globular jar, embedded to the bath floor has served the purpose of water container. The drain and bath platform are in random rubble masonry, set in lateritic gravel, which has prevented seepage within the area and also has allowed quick disposal of refused water.

**Structure 56: (Pl. 6.59-60; Fig. 6.27)**

Immediate north of the structure no. 55 is located the remains of the present structure seen in the cuttings of trench no. ZF8 and ZG8. Trapezoid on plan measuring 13.20 x 5.80 m, the building is consisted of four rooms with an L-shaped corridor. The room on the south-eastern margin has an opening across the main entrance to the building. The adjoining room opens towards the shorter axis of the corridor facing the rooms of the western margin which are interconnected. An inbuilt platform along the longer axis of the northern outer wall is perhaps used as sit-out for the guard.

An annexe to the present structure in rubble masonry is noticed on the north-western corner. It is a trapezoid shaped cell, consisting of an oblong platform of random rubble masonry. In subsequent phase, over the remains of the cell, an extension of brick structure no. 57 has been constructed.

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2. B.B. Lal, *Sisupalgarh* 1948; *AI*, 5, 1949, p. 70, pl. XXXIA.
Pl. 6.58: Hoard of iron objects found embedded in the first right cell, structure no. 55, Period-V

Pl. 6.59: A view of structure no. 56, 57 & 58 from south side, Period-V
Pl. 6.60: A view of structure no. 56, 57 & 58 from east side, Period-V
Structure 57: (Pl. 6.59-60; Fig. 6.27)

Surfaced in the cuttings of trench no. ZF9, ZG9 and ZH9, is a four roomed brick structure measuring 23 x 5 m, set in mud mortar. It has a weak construction of single brick measuring 50 x 32 x 8 m. The courses are laid in stretcher order, which has weakened the strength of the structure. The inner portion of the building has reported twenty two brick courses, out of which fifteen have been found, collapsed due to weak construction. The superstructure is supported by wooden posts as marks of postholes are noticed in the walls.

Leaving aside the extension of the cell on the western part of the structure, the main portion of the building is well contrived, showing linear plan with a right angle offsetting in the southern wall. Due to offsetting in the southern wall, the width of room on the western flank is increased slightly over a metre as compared to the width of antechamber and elongated room on the eastern flank, which contains a circular ring structure. Entrances to each cell are of 1 m wide. There is a set of three stone anvil pitched at one place in the eastern flank of the cell. There are couple of circular structures; one is a set of terracotta rings while the other is of brick bats masonry, apparently of later phase (Pl. 6.60) located towards the southern margin of the brick wall.

Structure 58: (Pl. 6.59-60; Fig. 6.27)

In the subsequent phase, over the residue of the western flank of structure no. 57 is noticed a set of four circular platforms built in rubble masonry, set in mud mortar having a diameter of 1.50 m. These are exposed to a height of 1 m. As usual, this type of structure having a set of four circular platforms has been built in the last phase of occupation at the site.

(vii) BLOCK G

Here, the excavations are confined between southern part of lane no. 5 and northern arm of the main street connected to the entrance on the eastern side. The structure no. 59, built parallel to lane no. 5, is integrated to the structure no. 55. Other structures like no. 61 to 64 are heterogeneous in character with diverse orientation. However, those parallel to the street apparently are planned meticulously. The significant contribution of the excavation in this area is exposition of goldsmith’s house, shopping area and a set of bins within an enclosure, identified as warehouse.

Structure 59: (Fig. 6.27)

Surfaced in the cuttings of trench no. ZG5/1, ZG6/4 ZF5/3, ZG5/1, it is a three roomed rectangular structure with a projected entrance of 1.75 m from the lane no. 5 on the north side. It is linear on plan, constructed parallel to the lane no. 5 and in alignment of structure no. 55. The disposition of the building indicates its function as visitor’s parlour to the structure no. 55. It has a central hall measuring 3.80 x 3.00 m and two side chambers, each measuring 2.10 x 3.00 m and 1.80 x 3.00 m. Both have entrances through the central hall. The overall size of the parlour measures 9.40 x 3.80 m.

Structure 60: (Fig. 6.28)

It is a two-roomed rectangular annexe type of structure, opening towards the north in the forecourt of structure no. 61. This might have served as an accommodation for extended guests. Located in the trench no. ZF4/2 and ZG4/1 and 4, both the rooms have independent entrances measuring 90 cm. The left one is rectangular measuring 2.70 x 2.10 m on plan while the right is 2.70 m square.
STRUCTURES OF PERIOD V
BLOCK G

Fig. 6.28: Distribution of structures in Block-G, Period-V
Structure 61: (Pl. 6.61-62; Fig. 6.28)

It is a usual type of elliptical structure, located in trench no. ZG4 and ZG5. It has an entrance measuring 1.00 m opening in the central hall measuring 4.00 x 3.80 m from west side. The chambers on the left measuring 3.80 x 2.00 m and right measuring 3.80 x 2.20 m have staggered entrance of 80 cm through the central hall (Pl. 6.61, Fig. 6.28). Towards the northern flank of the entrance is noticed a silo built out of seven terracotta rings of 65 cm in diameter. It is laid in a pit of which first six rings are of usual circular type, showing straight sides. The seventh ring at the base is of bulbous profile with a chamfered end, resting over a circular floor treated with lateritic gravel as an insecticidal device (Pl. 6.6).

Structure 62: (Pl. 6.63; Fig. 6.28)

An important structure, apsidal on plan measuring 5.70 x 4.00 m, exposed in the cuttings of trench no. ZG4/3 and ZH4/4 is located towards the south-eastern portion of the elliptical structure no. 61. It is aligned east-west, with an entrance from the west side. The apsidal end on the east side has reported a circular platform of 2 m in diameter, which is partially robbed. A ring well of 85 cm in diameter, a source of water, is surfaced near the south-western part of the forecourt (Fig. 6.28). The southern arm of the apsidal structure has not been traced as the feature of robbing is noticed in the excavated trenches.

This is the first apsidal structure in east-west alignment located in the north-eastern part of the habitation indicates its function as a structure of religious purport; however, there is no other supportive evidence to postulate this view.

A circular platform of 1.40 m in diameter of earlier phase is reported below the northern arm of the apsidal structure.

Structure 63: (Pl. 6.63; Fig. 6.28)

The structure no. 63, located in the cuttings of trench no. ZH4, is unusual on plan, constructed partially on stone and bricks set in mud mortar. It appears to have functioned as an ancillary structure to the structure no. 62. There is an integrated L-profiled screen wall towards the northern part of the structure. Parallel to the western margin of the wall, there is an L-profiled stone drain with dents towards the end of the longer and shorter axis running south to north. The drain has stone abutment along the brick wall. The brick drain on the eastern side of the structure indicates a platform like feature at the source, has also maintained a slope from south to north (Pl. 6.63, Fig. 6.28).

The overall disposal of the L-profiled screen wall and the drains on either side indicates the function of the structure as bathing space.

Structure 64, 65 & 66: (Pl. 6.64; Fig. 6.29)

Coherently planned, a tri-linear complex, showing face-to-face (structure no. 64-65) and back-to-back (structure no. 65-66) planning with a common forecourt and a service lane, is located in the cuttings of trench no. ZHI, ZJI, ZH2 and ZJ2. The complex was occupied by a group of wealthy functionaries, practicing gold smithy. Concomitantly, these functionaries seem to have favoured hoarding of coins and gold beads. The floor of the structure no. 65 has reported a hoard of the Satavahana copper coins (Pl. 17.1), while the floor of structure no. 66 has reported two hoards of punch marked coins out of which one contains three gold beads (Pl. 17.2).

Structure 64: (Fig. 6.29)

The structure no. 64, largely robbed structure is located in the cuttings of trench no. ZH2/1 and 4 on the western margin of the tri-linear complex. This
Structural Remains

Fig. 6.29: Distribution of structures in Block-G, Period-V

SCALE 1 0 1 2 3 4 5 METRE
Structural Remains

Pl. 665: Working platform of gold smith, structure no. 65, Period V
structure was possibly occupied by artisans for living purpose. The room measuring 2.85 x 2.30 m on the northern flank has an access of 1.00 m wide through the eastern wall besides an interconnecting passage in the southern partition connecting the central room. Possibly, it has also an independent entrance from the eastern side, whereas the south flanking room has been conjectured on the basis of the plan of structure no. 65.

**Structure 65: (Pl. 6.64; Fig. 6.29)**

It is also a partially robbed structure, located in the cuttings of trench no. ZH2/3 and ZH1/2, built in an alignment of the structure no. 64 having a common forecourt. On plan, the building has shown traces of three rooms with independent access of 1.00 m wide in the western wall. The room measuring 2.70 x 2.55 m on the northern flank has reported a hoard of copper coins (Pl. 17.1) consisting thirty two specimens of elephant and Ujjain type of coins attributed to Yajna Sri Satakarni (Reg. No. ADM-1: 10,000). It appears to be a saving of an artisan pursuing gold smithy. The central room measuring 3.15 x 2.70 m has reported a working platform of goldsmith (Pl. 6.65). Two bevelled earthen pots possibly for storing water were found in-situ, parallel to the southern partition wall. Near the stone anvil, a couple of titled miniature pots has been exposed, which also forms a part of the activities related to goldsmith's workshop. The room measuring 2.70 x 1.65 m on the southern flank is partially extending over an earlier remains of the circular structure no. 68.

**Structure 66: (Pl. 6.64; Fig. 6.29)**

On the eastern margin of the tri-linear complex is located a residential block, possibly of an important functionary. The structure has a porch entrance from the east side showing pavement of bricks and stone. It is located in the cuttings of trench no. ZJ2/4, ZJI/1 and 4. Possibly for security constrains, the building is provided with one entry point of 1.00 m wide from the front room measuring 3.10 x 2.50 m on the southern flank, whereby interconnecting two rear rooms. The front room has reported two hoards (Reg. No. 7267 and 7365) of Punch-marked coins; one of them contains three gold beads (Reg. No. 7268 & 7269) (Pl. 17.2).

**Structure 67: (Fig. 6.29)**

The structure no. 67 has been identified as a unit of three shops. This largely robbed structure is located in the cuttings of trench no. J1/1 and 2, H1/2, ZH1/3 and ZJ1/4. It is rectangular on plan consisting of three shops in front and each one is connected to a common rectangular storage area measuring 6.30 x 5 m at the back. A portion of the floor of the shop is found strewn with Satavahana coins which compliments the identification of the structure as shopping area, where transactions were made in coins.

**Structure 68: (Fig. 6.29)**

In the cuttings of trench no. ZH1/3 and 4 is noticed a cluster of ten circular bin platforms, built in overlapping manner within a circular enclosure of 5.70 m in diameter. Four on the northern side are built in quick succession one above the other. A cluster of four on the western margin has also been treated in similar manner, while the two on the southern margin are built over a portion of the robbed enclosure. The present cluster of bin platforms and its enclosure wall are originally planned before structure no. 65; however, the successive restoration in the bin platforms suggests its continuous function during the later phase.

**Structure 69: (Pl. 6.66-67; Fig. 6.29)**

One of the most impressive structural units located in trench no. ZJ2/3, ZJI/2, ZK1 and ZK2/3 and 4, has been identified
Pl. 6. Wore house, a view from the west, structure no. 69 & 70, Period V.
as a warehouse together with some ancillary features. It is built on the northern flank of the street in east-west orientation, facing the main entrance on the eastern side of the habitation. The building is quadrangular on plan measuring 6.30 x 5.40 m, enclosing four circular platforms and other ancillary structural components. There are two phases in the construction of this structure. The first phase of the construction is denoted by the lower courses of shale stones set in mud mortar showing dressed external face, with a stepped entrance on the south-western corner. The second phase of construction is marked with brick courses laid over the stone courses with an entrance on the eastern side.

A subsidiary entrance of later phase, located in the southern wall behind the two ancillary structures is possibly meant to reach the circular cistern as and when required. The enclosure wall is built of stone with dressed surface facing the interior. All care has been taken to maintain the horizontal and vertical levels in the construction of walls and circular platforms by using instruments like plumb and angles. The distribution of four circular bin platforms has been planned with a view to have proper movement of functionaries within the enclosure. Subsequently in the later phase, the western entrance was sealed and a separate entrance was provided from the eastern side, together with a few additional features.

For example, there is a provision of an in-built parallel drain-like groove measuring 12.10 m in length, 20 cm in width and 35 cm in depth in the centre of the eastern part of the extended construction in bricks identified as wharf-like platform. The utility of this drain-like groove across the entrance and along the inner edge of the wharf-like platforms possibly indicate its function as groove for sliding shutters to close the entrance to the storage area. Similar features of wharf-like platform and drain-like groove have been noticed in the warehouse exposed in the excavations at Lothal. The drain-like groove has marginal slope on either side to facilitate comfortable rolling of the shutter at the time of opening and closing the passage. The antechambers on southern flank have served as wharfage to meet the functional requirements of the warehouse.

It is a well-conceived storage (warehouse) with proper distribution of circular platforms for easy handling of goods within the enclosure.

The warehouse has collapsed due to the pressure from northern side (Pl. 6.66). There are noticed fifteen courses of fallen bricks parallel to the northern wall. Coincidentally, the structure no. 57 (Pl. 6.60) has also fallen down due to similar northward thrust, possibly at the same period of time due to certain natural calamity.

**Structure 70: (Pl. 6.67; Fig. 6.29)**

Subsequent to the disuse of the warehouse (structure no. 69), a set of four circular platforms is raised in the forecourt on the east side. These are laid almost in the same alignment of those circular platforms existed inside the enclosure.

It is located in the cuttings of trench no. ZK1/2, ZK2/3. Out of the four-bin platforms, two are completely robbed off. It is an activity of the last phase in which three courses of bins are exposed showing a maximum height of 35 cm.

**G. DEFENCES**

The most important disclosure in a stratified context is that of the earliest rampart and a moat at the site, assigned to sub-period III A.

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The rampart and moat are complementing structures of defences, and at the same time, the construction process of both goes hand-in-hand. Both have been glorified in the early traditional sources from Vedic period onward. For instance, in Rigveda the term dehi denotes a defence or rampart of hardened earth with parapises and ditch, while pur stands for rampart, fort, and stronghold. Later texts refer to prakara for a fortification, while parikha a moat. Kautilya makes the process clear by saying that Vapra (mud rampart) should be made out of the khata (dug-up material). The heaping up of the material for rampart by scooping out earth to form the moat has been noticed at a number of excavated sites. Adam is no exception to the statement recorded by Kautilya for the making of rampart.

(i) THE RAMPART : (Pl. 6.68)

Building of the rampart at the site predates the process of making as enumerated in the Artha-shastra. The east-west cuttings across the rampart and moat from trench no. Q5 to Y5 have substantiated the process of making of the rampart through the ages. Here, the first rampart is built at the beginning of sub-period III A, over the pre-defence strata of layer 16 of period II.

Basically, it is built of lateritic gravel, scooped out from the area running parallel to the outer alignment of the rampart. In the process, a heap of rammed lateritic gravel of hemispherical shape is formed. It is 1.75 m in height and 8.70 m in width at the base. The trough like moat, with tapering sides and flat base, is 2.70 m wide at the mouth and 1.55 m at the base (Pl. 5.3).

In sub-period III B, a battlement over the rampart was added. It is three coursed masonry work of random rubble, set in lateritic gravel mortar mixed with clay. The maximum height of the battlement recorded is 60 cm and width 1.05 m (Pl. 6.68).

With the rise in agro-pastoral economy, the prospects at the site led to a large scale scheme of enlargement of the rampart in period IV which followed the alignment of the rampart and parapet wall of sub-period III A and III B respectively. The process of scooping and dumping of earth has been taken up extensively from all the four sides to create an oblong rampart around the settlement. The process of dumping of earth starts over layer no. 10 from outside as the heavier material is seen settling towards the inner slope in the formation of rampart.

The maximum height of the rampart noted is 4.50 m and the width at the base is 19.30 m; however, the width and depth of the moat of period IV is not ascertainable as it has been subjected to further digging during the succeeding period V.

Finally, period V has reported an enlarged version of the rampart of the preceding period. It is built over layer no. 7. The cuttings of trench no. U5 on the east side has reported a feature of two metre wide berm. It is left between the outer toeline of the rampart to protect the silting of the moat from erosion of the rampart. As it survives now, the maximum height of the rampart noted from the top is 6.75 m and width at the base is 34.80 m.

(ii) THE MOAT : (Pl. 5.2, Pl. 6.69; Fig. 5.7)

The surface feature surrounding the periphery of the rampart testifies the existence of a moat around it. The northern stretch of the moat is largely silted with the passage of time, currently raised for a road leading to a village named Majri (Fig: 2.4). However, the depression of the moat can be seen on the eastern and western flanks, carrying water for a major part of the year.

2. Rig Veda VI. 47. 2, VII 6.5; Vedic Index Vol. I, pp. 538, 539.
Pl. 6.69: V-Shaped ditch towards the eastern margin of the moat, Period-V
During monsoon, water is seen accumulated on the southern fringe of the moat. The excavations carried out on the northern and southern side of the moat has ascertained the surface features.

The moat attributed to sub-period III A is of trapezoid shape, cut into the natural soil. The sidewalls of the moat has an inclination at 70°. It measures 2.70 m wide at the mouth and 1.55 m at the base (Pl. 5.3). The character of the moat of period IV has not been ascertained as it has been subjected to digging for expansion during the process of enlargement operation of rampart of period V.

As regards the moat of period V, it is ascertained in the cuttings of eastern, northern and southern sections of the moat that it is sunk directly into the bedrock. Conspicuously, the counterscarp of moat on all the three sides has reported a profile of almost V-shaped ditch of varying angles showing inclination at 70° to 80° (Pl. 6.69). The excavations at Banawali have reported V-shaped depression in the moat reminiscent to the one noted in the counterscarp portion of the moat at Adam. These peripheral ditches are devised to prevent seasonal erosions and rolling down of heavier material in the moat. The ditch in trench no. Y5 on the eastern side contains maximum number of unbroken red ware bowls, typical of the Satavahana period. The deposition of unbroken bowls not only corroborates the functional aspects of the ditch, but also suggests the existence of occupation outside the rampart. The total width of the eastern moat is 44.75 m and depth 4.30 m (Pl. 5.2 & Pl. 6.69).

The width and depth of the moat on the northern side has not been ascertained; however, it is relatively less wide as compared to the eastern and southern side.

The moat on the southern side has reported uneven series of channels of varying angles of inclinations, cut in bedrock. In all eleven channels are recorded in the cuttings of trench no. A19 to A25, maintaining a slope from west to east (Pl. 5.7). Two successive channels on the southern periphery of the moat, has shown inward inclinations with uniform width of 3.00 m at the mouth and 1.20 m at the bottom, showing a depth 1.50 m. The third channel is 4.70 m wide at the mouth, 2.00 m at the bottom and 1.50 m deep. A stretch of say 19.60 m in the moat has reported assorted type of grooves scooped in the bedrock. However, towards the berm of the rampart a terraced ditch of 3.10 m wide at the mouth and 1.20 m at the bottom with a depth of 2.50 m is noticed, which got filled with talus material. The frequency of pottery in these ditches is negligible as compared to the moat on the eastern side. The lesser frequency of pottery in the southern channels of the moat indicates that the southern part across the moat was not inhabited as compared to the eastern part of the moat. It is due to extension of habitation across the moat on the eastern side during the last phase of occupation.

Further cuttings on the southern side across the moat have been laid in trench no. H19 and H22 which is 70 meter east of the cuttings of trench no. A19 to A25. These cuttings have been taken with a view to ascertain the features noted in the cuttings of trench no. A19 to A25. The channel-like features have been noticed in these cuttings (Pl. 5.10) but the alignment of the channels does not correspond with those noted in the cuttings of trench no. A19 to A25 (Pl. 5.7). These channels have been cut in the lateritic gravels occasionally embedded with lateritic blocks. These channels of various width and depth in the lateritic terrain may have been devised to meet the hydrological requirements by opting to distribution of water through these segmented channels, causing filtration. The moat also served in harvesting the rainwater which correspondingly maintained the water levels of wells dug within the habitation area.
H. STREET AND LANES

The surface feature within the rampart has shown indications of main street running east-west with a dent in the centre and lanes originating from it. The overall plan of the street and lanes attest arterial formation. Apparently, the main street has remained free from occupation. The cuttings in the central part of the street have shown feeble impression of cart mark.

The cuttings in the trench no. N5/2, 05/1-4, N6/2 and N7/2 and N7/4 have shown the use of lane from period IV till the desertion of the site. Another feature of intersection of lane no. 2 where it meets the lane no. 3 at right angle shows formation of a T-like junction. It is an important lane on which building on either side were planned with projected stepped entrances (Pl. 6.34, Fig. 6.24). Incidentally, the stepped projections in the structure no. 28 and 29 indicate encroachments in the lane no. 3 (Pl. 6.34).

A portion of the lane no. 5 has been noticed in the cuttings of trench no. ZF6, ZG6 and ZH6 laid between structure no. 55 and 59 (Pl. 6.56, Fig. 6.27). An important feature of chandrasila projection at the entrance of the structure no. 55 is seen as encroachment over the street. Likewise, a stepped entrance to the structure no. 59 appears to be an intrusion (Pl. 6.57, Fig. 6.27).

House-drains at times have been seen terminating in the lanes. This feature has been noticed in lane no. 1 in the cuttings of trench no. N6/3 where a covered drain is seen terminating into the street (Pl. 6.16, Fig. 6.17).

The central street has shown some kind of lateritic treatment over the surface, whereas the lanes have not shown any feature of special treatment to prevent erosion.

I. BUILDING MATERIAL

The excavations have revealed use of different building materials which are available locally in the vicinity of the site. Among the building material, lateritic gravels and wooden posts appear to have been introduced in period I. Besides wood, reed and other perishable material, plastered with mud have been used in the construction of wattle-and-daub structure. As gleaned from the preceding discussion, these two items continued to play an important role in the construction through the successive periods of occupation. The use of shale stone starts from sub-period III A, while mud bricks and burnt bricks were introduced as valuable material in the construction of period IV and period V. Terracotta rings have been used in the construction of draw wells, privy, storage bin and grave pit. Mud as mortar has been used extensively but at times, for giving additional strength to the structure or as water tightening device, lateritic gravel mixed with clay has been preferred.

Other than these primary materials, the site has reported certain products of structural components in the form of finials, roof-tiles, pillar-base, pivots, tuyere, pipe and footrest etc. Selected specimens are described below.

(i) FINIALS (THUPIKAS) : (Pl. 6.70)

Of the five finials, reported at the site, four are fragmentary and one is complete. These finials not only bear resemblance to those unearthed from a few important early Historical sites like Sambhar¹, Rairh², Bairat³ but also to those occurring in the

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Pl. 670: Terracotta Finials (Thupkás), Period V
contemporary works of art demonstrated at Bharhut, Sanchi and Nagarjunakonda and in the paintings of Ajanta\(^1\). There, it invariably occurs on the auspicious structures of status, carved or painted in the backdrop of some narratives or events. Concomitantly, the discovery of finials at the site suggests existence of buildings of distinct nature occupied by persons of societal hierarchy.

The specimens reported here are of coarse fabric, externally treated with red slip. They are hollow conical with tapering sides, showing stepped mouldings, alternately ridged and grooved, lower flanged portions bearing holes for tying these to rafters in upright positions.

1. Moulded finial of coarse fabric treated with red slip. Upper portion is domical followed by alternately ridged and grooved band marked by a flange, obliquely terminating into a tenon with a mortise. Size: Ht. 37.5 cm, Maximum diameter 22.2 cm (Reg. No. 4852). From mid level of period V.

2. Moulded finial of coarse fabric treated with red slip; upper and lower portions damaged, showing three ridged upper mouldings concave sides centrally ridged, couple of holes seen immediately above the lower flange. Size: Ht. 26.5 cm maximum, diameter 21 cm. From mid level of period V.

3. Moulded finial of coarse fabric treated with red slip, domical portion chamfered, and cylindrical neck and flanged shoulder ridged. Size: Ht. 13.5 cm, diameter 17 cm. From mid level of period V.

4. Moulded finial of coarse fabric treated with red slip, showing a ridged moulding and flange with a perforation on lower flange. Size: Ht.

5. Moulded finial of coarse fabric treated with red slip, showing a domical top and conical sides bearing five ridges, moulding occurring approximately at intervals of 4 to 5 cm. Size: Ht. 32 cm, diameter 22 cm. From mid level of period V.

(ii) ROOF-TILES : (Pl. 6.71)

The site has reported good number of roof tiles occasionally seen reused in the floors of cells and courtyard, construction of brick walls and in the soakage pits. It starts occurring from the upper levels of period IV and remains in use till the desertion of the site. On the basis of make, these tiles may be classified in three types i.e. type (a) externally grooved oblong tiles for steeple-like setting in vertical alignment, used in sloping roofs; type (b) externally grooved coping roof-tiles used at the junction of two sloping sides of tiled roof (ginjike chadana). The tiles of type (c) possess at times one and sometimes two perforations in alignment along the upper shorter axis and a deep groove along the lower axis of the rear surface. The upper perforations are useful in nailing the tile with the rafter and similarly the lower groove helps in setting the tiles in overlapping order. All these tiles are of coarse fabric, occasionally smoky but largely of brick red in appearance. The upper convex surface seems to have been treated with red wash while the rear surface shows porous feature. Nine selected specimens are described below:

1. Oblong roof-tile, damaged, upper surface bears five grooves, rear surface possesses one groove. Size: 22 x 16 x 2.7 cm. From upper level of period IV.

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Pl. 6.71: Terracotta roof tiles, sl. no. 3 Period-IV, rest Period-V
2. Oblong roof-tile, damaged, upper surface shows seven grooves, rear surface shows one, lower shorter axis bevelled. Size: 26 x 22 x 2.9 em. From upper level of period V.

3. Coping roof-tile, damaged, convex upper surface bears a set of four and three grooves horizontally, the shorter axis intercepted by vertical paring marks. Size: 37 x 30 x 3.3 cm. From upper level of period IV.

4. Oblong roof-tile bearing two deep grooves along the left margin, damaged. Size: 23 x 19 x 2.7 cm. From upper level of period V.

5. Oblong roof-tile showing couple of perforations along the upper shorter axis together with four grooves of varying sizes and finger-marks. Size: 28 x 18 x 3.2 cm. From mid level of the period V.

6. Coping roof-tile fragment showing three oblique grooves overlapping vertical grooves along the longer axis. Size: 18 x 15.5 x 2.7 cm. From upper level of period IV.

7. Oblong roof-tile fragment showing seven grooves together with a damaged loop-like mason-mark seen along the upper shorter axis. Size: 22 x 17 x 3.2 cm. From upper level of period IV.

8. Oblong roof-tile fragment showing eight grooves together with a toe mark and a rear groove. Size: 22 x 16 x 2.6 cm. From upper level period IV.

9. Oblong roof-tile fragment showing seven grooves together with a toe impression and a rear groove. Size: 17 x 20 x 3 cm. From upper level of period IV.

(iii) PILLAR-BASE : (Pl. 6.72)

The site has reported a total of six pillar-bases of terracotta and sand stone, of both circular and square varieties. All of them have been documented at various levels of period V. The upper surface of these bases bears impressions of supporting either circular or square varieties of pillars. The use of pillar-base not only enhances the elegance of pillar but also adds to its durability and prevents from moisture of the floor and to a certain extent from termites. It also indicates the role of carpenters in preparing the wooden pillars for superstructure and fixing it over such bases.

The terracotta specimens, unique to the site, are basically solid handmade mass of heterogeneous materials mixed in clay with heavy sand particles, brick jelly, rice husks, and finally treated with dull red slip. Two of them are of plain variety showing tapering sides with roundish corners and squarish cross section, while the other one bears offset at the base together with marginally ridged plaster-like feature in each corner of the tapering sides, virtually connected to the upper moulding. The stone specimens are of identical type showing stumpy, dressed blocks with tapering sides and squarish on plan.

Considering the overall features of the pillar-bases, it is assumed that these were used to support posts of superstructures of low height.

1. Moulded terracotta pillar-base with tapering sides, squarish base, for supporting circular wooden post. Size: Ht. 34.5 cm, base: 15 cm. From mid level of period V.

2. Plain terracotta pillar-base for supporting squarish wooden post, squarish section. Size: Ht. 11 cm, base width 17 cm. From late level of period V.
Pl. 6.72: Pillar Bases of terracotta Sl. No. 1-3 and stone Sl. No. 4-7, Period-V

Pl. 6.73: Pivot of shale stone, Period-V
3. Plain terracotta pillar-base of similar type as noted above. Size: Ht. 17 cm, base width 21 cm. From upper level of period V.

4. Plain sandstone squarish pillar-base stumpy, oblique side. Size: Ht. 5 cm base 10.5 cm. From upper level of period V.

5. Plain sandstone circular pillar base, cylindrical profile, upper surface shallow, lower flat. Size: Ht. 8.5 cm, diameter 10 cm. From upper level of period V.

6. Plain sandstone stumpy pillar base, circular on plan, oblique sides partially rounded. Size: Ht. 3.8 cm, base diameter 10 cm. From mid level of period V.

7. Plain sandstone pillar base similar to sl. no. 4. Size: Ht. 8.5 cm, base 10.5 cm. From upper level of period V.

(iv) PIVOT : (Pl. 6.73)

An in situ evidence of pivot stone has come to light from a circular structure of period III B (Fig. 6.8). Similarly an uneven triangular pivot of shale stone measuring 31 x 23.5 x 14.3 cm, bearing a circular socket of 11.1 cm in diameter, scooped to a depth of 5.3 cm, has been reported from the upper level of period V. Possibly it was hinged to short circular wooden doorpost. The upper edge and inner wall of the socket bear rounded surface formed due to constant friction with the post while its base shows a concave surface. Its external base bears tell-tale marks of five grooves which was formed in the course of detaching it from the parent rock and was deliberately left to register automatic grip with the floor.

(v) TUYERE : (Pl. 6.74)

The site has reported a tuyere which formed an important element in the construction of a furnace. It is a vital find to show the existence of furnace at the site. It possesses all the features of a tuyere through which air is forced into the furnace for combustible in which either minerals or metals are subjected to constant heat. It is of funnel shaped, wheel turned, and its exterior is treated with black slip. Its interior shows rusted brownish use mark over the grey surface. Its pipe-like lower portion, fitted to a bellow, is chamfered while its flared mouth portion is damaged. It is reported from the mid level of period V. Its length is 17 cm and the approximate diameter of its mouth is 16 cm.

(vi) TERRACOTTA PIPE : (Pl. 6.75)

The terracotta pipes, depending either on nature or contexts have been described as conduits for conveying liquid, water chutes or ordinary pipes. The one reported from the present excavation is in damaged condition hence its exact nature remains undetermined. It is of coarse fabric, externally treated with black slip. It has out turned featureless rim with gentle tapering cylindrical sides; lower portion damaged, and showing out turned thickened end. The length of the pipe is 20.3 cm and its diameter is 10.5 cm. It has been reported from the upper level of period V.

(vii) FOOTREST OVER THE DRAW WELL : (Pl. 6.76)

A unique discovery of a footrest in the form of an oblong undressed sandstone measuring 170 x 52 x 12 cm has been made at the site, partially sunk in the upper debris of a well structure no. 20A, on which it was formerly laid to enable the operator to place his or her feet firmly over the slab at the time of drawing water from the well. The fact gets further attested with the existence of seven grooves in a row.
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Pl. 6.74: Tuyere (a furnace blower pipe), Period-V

Pl. 6.75: Terracotta pipe
formed due to constant friction of rope against the side of the longer axis of the slab (Pl. 3.1).

(viii) PITCHER-BASE : (Pl. 6.42)

The cutting of trench no. C4/2 has reported a row of three in-situ clay rings embedded over the plastered mud floor occasionally pitched with terracotta tiles and pottery. These clay rings, figure at regular intervals bearing layers of occasional mud plaster of which the core is coarse. These are ideal ring bases serving as a stand for the water pitcher. These pitcher-bases have been found adjacent to the floor area of a kitchen (Pl. 6.41).

J. SUMMATION

Description of structures from period I to period V indicates the gradual process of socio-economic development at the site. It is noted that the site came under occupation in the Mesolithic period in unpretentious way which is evident from the structures of make-shift type wherein knapping of stone artefacts has been recorded. The exploitation of local flora and fauna laid foundation for the first farmers of Vidarba to plough the resources of the region (period II). Remains of structures of the period II indicate small-scale industrial database of subsistence supported by structures, together with evidence of performance of fire rituals.

In sub-period III A, introduction of rampart schematically indicate uninterrupted growth leading to organised social order evolving towards ranked society. Addition of battlement over the rampart in sub-period III B, apparently, is in continuum of mandate exercised in sub-period III A. In the sequence, it is noted that application of new building plans and use of upgraded building material elevated the status of the settlement to a composite unit. The process of refinement in urbanisation can be noticed through the strata of period IV and period V. These two periods start witnessing diversity in occupation, mobility in hinterland and overseas trade, largely based on coins.

From period IV onwards, the site has identified bead maker’s house. Subsequently in period V, the craft specialisation gets further diversified with the identification of structures dedicated to goldsmith’s floor, ironsmith’s floor, bone carver’s floor, dying vats, warehouse, circular silo and bin platforms which further explain the relative progression and prosperity of the site.

The functional character of the settlement of period V, if assessed on the basis of present day census-criteria, it would be characterised as market-cum-industrial settlement. In view of the finding of Asika Janapada sealing, the site gets corroborated as an important settlement of the Asikas. If we go by the explanation of Kautilya, there is ample evidence to suggest that the Janapada settlement at Adam was receiving merchants and traders, active on trans-Vindhyan trade route. To facilitate the manufacturing of quality products, the specialised craft persons were commissioned at the site in order to meet the demand of the contemporary hinterland and overseas trade.

The settlement pattern as such reported from the excavations at the site may tentatively correspond with the literary data found in Milindapanha wherein it is stated that the architect who builds a city “would first search out a pleasant spot of ground ... and would proceed to build there a city, fine and regular, measured out into suitable quarters with trenches and

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ramparts thrown out around it, with strong gateways, watch-towers and battlements, with wide squares and open places and junctions (where two roads meet) and cross-ways (where four roads meet) ... with regular lines of open shops", provided with orchards and water bodies. All these elements of basic planning recorded in the text correspond with the structural details surfaced at the site. For example, the site is located in the backdrop of a picturesque landscape with a rivulet running parallel to the south of the rampart of the habitation. There are open space in the south western part of the mound possibly used as orchards, evidence of junctions of street and lanes with shops and warehouses in alignment, and water bodies in the form of moat go hand in hand with the description found in the Milindapanha.

The evidence of occupational groups noted at the site include ironmongers, weavers and dyers, metal workers, goldsmiths, bone and ivory carvers, horse-keepers, traders and shop-keepers etc. These occupational groups suggest diversity in economic organisation centered at the site. The contemporary epigraphical resources of early Historic India support above postulations.

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1 Sacred Books of the East, 36, Part II.
Fig 6.30: Details of structure no. 52, Block E
VII BURIALS

A. INTRODUCTION

In contrast to the burial practice of the Gangetic plains dating back to prehistoric times, the Megalithic burials in the Vidarbha region could be traced back to the 1st millennium BCE. Concentrated field work in the region has reported over seventy five Megalithic sites in a natural setting of the Wardha-Wainganga valley, distributed in the districts of Bhandara, Chandrapur, Gadhachirauli, Nagpur and Wardha. Out of which, nearly seventy percent of the Megalithic sites are distributed in the Nagpur district. These sites are located within a radius of say 40 to 50 km, indicating on an average a distance of less than 2 km between the two sites.

Most of these burials fall in the category of stone circles with cairn packing. However, there are a few examples of other types, viz. dolmens, cist chamber burials and menhirs. Some of the Megalithic burial sites are free from habitation while a few are associated with the habitation, situated in the flood plains. Reference may be made of sites like Khairwada situated on the bank of river Dham, Takalghat on the Krishna, Naikund on the Pench, Bhagimohari on the Kolar, Bhawar on the Chulabanda and Pachkheri on the Amb. Among these, Pachkheri is the only site in the Wardha-Wainganga valley where an ‘alignment’ of menhirs has been reported together with pit circle and cairn packing. The site lies seven km south-east of Adam (Fig. 1.2). Other stone circles in the southern neighbourhood of the present site are at Mandhal and Dongarmauda located at a distance of four and six km respectively.

A demographic study on the Megaliths of Vidarbha has highlighted that such practices were restricted to a certain group of people. Such monuments were raised over primary and secondary mortuary context, while the practice of urn burial remains limited to secondary inhumation in the region of Vidarbha. The urn burials reported at the site is attributed to sub-period III A onwards while such practices have been noticed in the Chalcolithic context in other parts of the Deccan.

Like Adam, there are a few other habitation sites of Iron Age like Kaundinyapura and Arni yielding artefacts reflecting the Megalithic culture of Vidarbha. These sites are also located in the proximity of Megalithic burials. The practice of burial in the Chalcolithic context has been reported from Tuljapur Garhi in primary context while at Tharsa in secondary context. The evidence at Tharsa pertaining to urn burial is of infants. However, the site at Adam has not reported evidence of burial from the Chalcolithic level (period II). The tradition of urn burial has been noted in sub-period III B (circa 1100 BCE to 800/700 BCE). The chronology of sub-period III B incidentally

3. For locational analysis refer Udayarar S. Moorti, Megalithic Cultures of South India Socio-economic Perspectives, Varanasi, 1994, pp. 11-18.
4. Pimpalgaon and Sisala in Bhandara district have reported dolmens; IAR 1992-93, p. 63, pl. XIXA.
Pl. 7.1: Urn burial no. 11, sub-Period-III B, Tr. K7/4

Pl. 7.2: Urn burial no. 12, sub-Period-IIIB, Tr. ZA5/4

Pl. 7.3: Urn burial no. 10, sub-Period-IIIB

Pl. 7.4: Pot burial no. 1, Period-IV
ADAM: 1988-92

POT BURIAL-2, PERIOD IV

Fig. 7.1: Battered pot burial no. 2, Period-IV

Pl. 7.5: Battered pot burial No. 2, Period-IV
coincides with the date of Chalcolithic levels noted at Tuljapur Garhi.

The practice of urn burial finds reference in the Sangam works. The remains of cremation were placed into burial urns (tală) and the mouth of which was covered by an inverted lid (kavă)\(^1\).

The Megalithic structures have universally been found distributed all over South Asia. Madias, a sub tribe of Gonds living in Amaravati and Nagpur districts of Vidarbha still erect Megalithic monuments\(^2\).

The excavations at the site have reported fifteen burials of secondary inhumation type from the habitation area, starting from sub-period III B, and three primary types from period V.

Typologically, the burials of secondary inhumation may be classified as: (i) single urn laid in upright position (ii) double urns laid side by side, (iii) single lid or basin laid upside down position, (iv) pot within pot laid in vertical order, (v) single urn laid within a terracotta ring chamber, (vi) single urn placed over a thick rim base and (vii) battered pot burial.

The burials of primary inhumation of period V represent (i) extended (ii) flexed and (iii) seated variety. The extend type is of a female with imputed legs while the flexed one is of an infant, both laid in north-south orientation. The seated variety of burial is in cross legged posture, facing east.

For the purpose of description, the burials have been numbered from sub-period III B onward; however, a period wise break-up of the excavated burials is given in the following table:

<table>
<thead>
<tr>
<th>Period</th>
<th>Secondary burial</th>
<th>Primary burial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-period III B</td>
<td>3</td>
<td>--</td>
<td>3</td>
</tr>
<tr>
<td>Period IV</td>
<td>2</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>Period V</td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>3</td>
<td>15</td>
</tr>
</tbody>
</table>

### B. SUB-PERIOD III B

**(i) Urn Burial No. 11 : (Pl. 7.1)**

An urn burial, noticed in K7/3, is sealed by layer 10. A circular pit is cut to accommodate the urn-chamber through layer 11. Urn-chamber of globular vase of red slipped red ware is laid in upright position in the pit. It is found in damaged condition with chamfered neck. Occurrence of urn burial in a vase with chamfered neck has been noticed at a few more urn burials sites\(^3\), suggesting some symbolic meaning attached to funerary rites. Inside the urn are reported one tiny charred bone, ashes and bits of charcoal, indicating child burial.

**(ii) Urn Burial No. 12 : (Pl. 7.2)**

It is an urn burial, contained in a globular vase, which was located to the west of Burial No. 11, in the section facing east of K7/4. The pot is laid in a circular pit sealed by layer 10 and cut in layer 11. The urn of plain red slipped ware is found laid in inverted position. It is slightly tilted towards west due to the pressure of the overlying filling. It contains ash and bits of charcoal, but no bones could be located.

**(iii) Urn Burial No. 10 : (Pl. 7.3)**

Double urn burial is reported in the north-eastern corner of the trench no. ZA5/4. The circular pit dug in layer 11 is sealed by layer 10. One of the urns is a

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ADAM: 1988-92

POT BURIAL-3, PERIOD V

Fig. 7.2: Burial no. 3, Period-V

Pl. 7.6: Burial No. 3 after cutting across the battered pot, Period-V
Excavations at Adam

Fig. 7.3: Pot burial no. 4, Period-V

Pl. 7.7: Pot burial no. 4, Period-V
Burials

carinated vase of micaceous red ware with chamfered neck while the other is of black slipped ware of globular profile with flared rim. These urns are aligned in north-south direction containing ash and bits of charcoal; however, the black slipped urn of globular body contains two tiny pieces of charred bones, tentatively suggesting child burial.

C. PERIOD IV

(i) Urn Burial No. 1: (Pl. 7.4)

It is embedded in the western section of B1/2 sealed by layer 7. The urn is laid upright in a pit dug through layer 8. It is a red ware vase of globular shape with wide mouth and incurved rim. The urn does not contain bones, except the charcoal mixed with ash. However, the urn contains a miniature pot of dull black ware, showing oblique out turned featureless rim, concave neck and globular body.

(ii) Battered Pot Burial No. 2: (Pl. 7.5; Fig. 7.1)

It is located in the cuttings of the trench no. ZF5/4, sealed by layer 7. The pit is dug into layers 8 and 9. The size of the pit is quite large as compared to the size of symbolic funeral content. The burial consists of a funerary chamber, indicated by a wide mouthed carinated vase, specially laid over the basal portion of a jar. Both are coarse fabric micaceous red wares bearing smoky patches. The chamber is filled with ash contents and a split bone. The stone slab placed over the vase serves as a cap stone (15 x 7 x 3 cm). The battered state of the urn chamber may be considered as part of funerary practice.

D. PERIOD V

(i) Burial No. 3: (Pl. 7.6, Pl. 7.16; Fig. 7.2)

It is reported in the trench no. B1/1, sealed by layer 4. Here, the funerary chamber and its cover consist of lower half of two large globular jars. These are of coarse fabric, ill-fired, dull micaceous red ware, and showing greyish patches. Funerary chamber consists of tiny bits of charcoal, ashes and a tiny bone fragment, besides two small shale stone fragments, a sand stone fragment of bigger size and hopscotch. The battered state of preservation of the upper part of urn chamber and its cover may be the part of the funerary rites.

(ii) Burial No. 4: (Pl. 7.7; Fig. 7.3)

It is located in the trench no. A4/1, sealed by layer 3. The pit, cutting across layers 4, 5 and partially 6, has an urn burial of symbolic type containing ash mixed with tiny bits of charcoal. The funerary chamber is of a large sized globular jar of dull red ware of coarse fabric. The upper part of the jar is showing thick collared rim and oblique shoulders which is placed over the funerary chamber, while the mouth of the upper jar is fitted with the lower part of a medium sized jar (Pl. 7.21).

(iii) Battered Pot Burial No. 5: (Pl. 7.8; Fig. 7.4)

It is reported in the trench no. B2/2, sealed by layer 2. The pit, cutting across layers 3 and 4 contains comparable grave furniture of the burial no. 2 of period IV reported above. The funerary chamber is of red ware basin, accompanied by a bowl and a vase fragments, besides, a slab of sandstone (35 x 20 x 4 cm) serving as capstone to battered pot burial.

(iv) Burial No. 6: (Pl. 7.9; Fig. 7.5)

It is symbolic burial reported in the trench no. E8/4, sealed by layer 1. The pit, cut across layers 2 and 3 has reported a chamfered lower part of a medium size red ware vase, covered by the lower part of a dull red ware jar. Apparently, the jar is

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1 It is regretted that the *in situ* photograph showing pot within pot could not be obtained.
Fig. 7.4: Battered pot burial no. 5, Period-V

Pl. 7.8: Battered pot burial no. 5, Period-V
Burials

ADAM: 1988-92
POT BURIAL-6, PERIOD V

Fig. 7.5: Burial no. 6, Period-V

Pl. 7.9: Burial no. 6, Period-V

ADAM: 1988-92
POT BURIAL-7, PERIOD V

Fig. 7.6: Burial no. 7, Period-V

Pl. 7.10: Burial no. 7, Period-V
battered after covering the funerary chamber. The funerary chamber contains charcoal bits and clay mixed with streaks of ashes.

(V) Burial No. 7: (Pl. 7.10; Fig. 7.6)

Another symbolic burial, noticed in the trench no. E8/2 sealed by layer 1, was comparable to the one noted above. The pit was cut across layers 2 and 3. Here, the funerary chamber of red ware vase is partially dislodged, which contains, charcoal and ash. The lid of the chamber is of micaceous red ware basin, placed in inverted position, and subsequently battered may be as part of funerary rites.

(vi) Burial No. 8: (Pl. 7.11; Fig. 7.7)

One of the most elaborate examples in the category of symbolic burials, located in the trench no. C1/2 is laid in a pit immediately below layer 1. It consists of a funerary chamber of dull red ware vase showing flared, grooved rim, short constricted neck and globular body which is stamped with a triratna symbol. The chamber-pot tilted towards north-west is secured within a thick collared inverted rim of a fragmented jar. To its right an undressed shale stone slab is placed. The funerary chamber contains ash and bits of charcoal.

It is the first excavated burial of symbolic type wherein a vase stamped with auspicious sign of triratna being used as funerary chamber. Pots stamped with auspicious devices have generally been used in ritualistic context (see Fig. 9.15).

(vii) Burial No. 9: (Pl. 7.12; Fig. 7.8)

It is located in the south-western corner of the trench no. D1/2, sealed by layer 1. Here, the symbolic burial chamber, consisting of six courses of terracotta rings set in a circular pit. The terracotta ring chamber contains ash, charcoal and pieces of bones. In the centre of chamber, a

funerary urn is placed with a tilt towards west. It is found in battered condition and contains ash and bits of charcoal.

E. PRIMARY BURIAL OF PERIOD V

Excavations have unearthed three primary burials, attributed to the last phase of period V. These grave pits individually contain the skeletal remains of a male, seated in cross legged posture, a female with amputated legs and a child.

(i) Burial No. 1: (Pl. 7.13; Fig. 7.9)

It is exposed in the trench no. XB2/3. It is a burial of rare type, wherein a male was buried in a seated cross legged posture within an ovalish grave pit measuring on one side 100 cm and other 80 cm. The pit was dug to a depth of 65 cm, cutting across layers 2 and 3. The skeletal remains exposed are in a poor state of preservation. The head is bent down, the frontal and temporal bones of the skull are damaged whereas the maxilla, seen with cusps of the teeth, moderately abraded, has a few teeth missing. The bones of the humerus, radius, ulna, carpus and metacarpus are poorly preserved. The other bones of vertebral column are missing and only the sacrum is seen. The left leg bones are damaged and seem to have been amputated from the lower portion of tibia. The right leg is comparatively better preserved baring portion of the patella. The individual was mature in age as is evidenced by the abrasion noted in the cusps of teeth.

The antiquity of this Samadhi type of burial may be traced back to the early Jorwe levels reported at Inamgaon1.

In the early Historical context, almost similar type of burial has been reported at Balathal2 and Tripuri.3 Keeping in view the

ADAM: 1988-92
POT BURIAL-8, PERIOD V

Fig. 7.7: Pot burial no. 8, Period-V

Pl. 7.11: Pot burial no. 8, Period-V
Excavations at Adam
Fig. 7.9: Burial no. 1, male seated in samadhi posture, Period-V

Pl. 7.13: Burial no. 1, male seated in samadhi posture, Period-V
ADAM: 1988-92
PRIMARY BURIAL-2
PERIOD -V

Fig. 7.10: Extended female burial no 2, Period-V

Pl. 7.14: Extended female burial no. 2, Period-V, Tr. ZG5/4
robusticity, body size, skeleton articulation, the individual has tentatively been identified as male.

The tradition of burying dead bodies in a sitting position is still in vogue among the Mahadeo Kolis of Maharashtra.1

(ii) Burial No. 2: (Pl. 7.14; Fig. 7.10)

It is a female burial, reported in the cuttings of the trench no. ZG5/4. The grave-pit is of ovalish shape on plan measuring $165 \times 60 \times 32$ cm, showing oblique sides. It contains an extended skeleton of a female in prostrate position with her head towards the north and the amputated legs towards the south. The overall condition of the skeletal remains is poor. The head is crushed; only the maxilla is seen with abraded cusps of teeth. The clavicle bones are seen but ribs are damaged. Likewise, left hand bones are better preserved than those of right hand, which was originally placed over the abdomen. The broad sized sacrum and damaged right ilium are seen but portions below femur are amputated. It is believed to have been a deliberate amputation.

The custom of amputation of legs is in vogue in Goa region, where the legs of the pregnant or parturient women, when they die, are amputated, so that they do not run away and turn into ghosts.2

The overlapping phase between the Malwa and Jorwe phase at Diamabad3 and early Jorwe phase at Inamgaon4 have reported such type of burials. Thereby the present evidence of amputation from the early Historical level at Adam serves as a legacy to an age old tradition.

Befitting to a female burial, the grave pit has listed out a couple of personal ornaments from the neck portion of the skeleton, namely a necklace of glass micro beads of cobalt blue colour of which one hundred and sixteen beads have been unearthed (Reg. No. 3615) and an ear stud or finely polished black jasper with radiating grooves on one side (Reg. No. 3403). Thereby it appears to be an important burial of a female.

(iii) Burial No. 3: (Pl. 7.15)

It is reported in the trench no. XB2/2. The grave pit is sealed by layer 1 which is cut across layer 2 and rested on 3. It is ovalish on plan showing oblique sides and has laid bare an extended skeleton of a child in north-south orientation with the head towards the north and legs towards south. It is laid sideways, head facing east. The bones below the waist are virtually missing.

![Pl. 7.15: Burial No. 3, Period-V, Tr. XB2/2](image)

3 S.A. Sali, *Daimabad*, p. 192, pl. LXVII.
4 M.K. Dhavalikar and Z.D. Ansari, op. cit.
Excavations at Adam

Pl. 7.16: Burial No. 3 showing battered pot. Period V
A. INTRODUCTION

The sustained explorations carried out by L.K. Srinivasan, followed by B.K. Sinha of the Survey in Sironcha, Chandrapur, Warora, Gadchiroli and Brahmapuri talukas of the Wardha-Wainganga valley have brought to light a number of Lower, Middle and Upper Palaeolithic sites besides Mesolithic. At Papamiya-Tekdi and Jhari-Mangrul identical sequence of Palaeolithic to Mesolithic periods have been noticed by Srinivasan. Further up in the valley, tools of Palaeolithic affinity have come to light from the vicinity of natural lake at Tadoba, Pauni, Kolasuran and Umred. The above noted distribution pattern clearly indicates that the Lower Palaeolithic people were the earliest inhabitants of the valley and their core being the undivided Chandrapur region of Maharashtra. They had primarily occupied thick forest zone, having perennial water sources for subsistence. Their subsequent expansion during the Mesolithic period in the upper mid-Wardha-Wainganga valley suggests increase in population leading to migration in the collateral geomorphological locations for subsistence with improved tool technology.

The present site is one such area where Mesolithic people virtually camped and created an environment for the first farmers of Vidarbha to settle over their remnant. Artifacts of Mesolithic period have occurred at the site in stratified context, besides a few stray finds of Palaeoliths.

B. PALAEOLITHIC TOOLS

Against this spatial backdrop, four stray Palaeoliths of volcanic and metamorphic material have come to light from the site, of which one is a surface find, and the rest are from the moat cuttings. Incidentally, basalt and quartzite have shared equal number of tools, of which the tools of former category are fashioned out of cobble and flake cores showing rolled surface covered with brownish patina, whereas the flatter specimens are shaped out of prepared flakes and are in fresh condition. All the four specimens are detailed below:

(Fig. 8.1)

1. Oval shaped handaxe made on a cobble of basalt having long semi-convex cross section and rolled features with yellow brownish patination, marked by invisible flake scars all along the margin of dorsal surface leaving the medial cortex on ventral and dorsal surface (13.7 x 9.2 x 4.7 cm).

2. Elongated handaxe made on a flake of quartzite showing large bicone cross section. The tool is in fresh condition with thick butt end and further marked by thorough flaking all along the proximal margins of dorsal surface, retained on medial (12.3 x 7.2 x 3.8cm).

3. Semi-oval shaped handaxe made on a basalt flake showing parallelogram cross section. It has rolled and weathered surface with yellow brownish patination and a thick butt end with the upper margin of dorsal surface bearing flake scars and cortex retained on medial. Deep scars are also seen on left and right margins of ventral surface (11.5 x 8.1 x 4.7 cm).
Fig. 8.1: Palaeolithic tools, surface collection from in and around the site.
4. Oval-shaped scraper on a quartzite flake showing long convex cross section. The tool is relatively in fresh condition with thick medial. Flakes have been removed all along the margins of the ventral surface and deep flake scars on the left margin of dorsal surface with retouched margins on both surfaces (9.5 × 7.9 × 2.9 cm).

C. MESOLITHIC TOOLS OF PERIOD I

In the Mesolithic context, microlithic artifacts have been extensively reported from the plateau of peninsular India and in this regard the Wardah-Wainganga valley of Vidarbha region is no exception.

Prior to the cuttings at the site, microliths in a stratified section have been noticed at Papamiya-Tekdi and Jhari-Mangru, both lying in Chandrapur district of Nagpur division. A number of sites in this valley which are virtually littered with microlithic tools have largely been termed as open-air sites with some exception. Among the important sites, mention may be made of Ramdigi in Chandrapur district, Bhagimahari and Kodamedhi in Nagpur district. However, the two sites excavated within close proximity of the present site are Pauni and Pachkheri. The latter site has yielded microliths of both geometric and non-geometric varieties which appear to be an extension of the same assemblage noted at the present site.

Immediately above the natural soil, the site has yielded one of the largest assemblage of microlithic artifacts, covering three-fourth area of the mound. The thickness of the deposit, varying from 60 cm to 30 cm, is more towards the south-eastern sector than on the north-western sector of the mound. The micro-debitage studies carried out at the site reveal that the tools were manufactured at the site, on locally available siliceous material like chalcedony, chert, agate, carnelian, jasper and quartz. Tools on chalcedony amount to 40.51% followed by chert 27.8%, carnelian 12.6, quartz 8.86, agate 6.32% and jasper 3.79%. The tool types comprise blades, flakes, points, burins, borer, scrapers and cores and their percentage of occurrence evidently show the dominance of flake-blade tradition, typical to this region.

Majority of the tools are made of prepared blade technique in which thin blades are uniformly detached either from single or multi platforms of a raw core and subsequently retouched either on one or more sides in order to make its function more effective. The tool-kit comprises a variety of shapes and types like parallel sided blades retouched on one or both margins, parallel sided blades with plain sharp working edge, blunted backed blades of both parallel and crescentic variety, thin pen knife blades, long narrow points, bifacial points, obliquely shaped and retouched points, tanged points, lunates, triangles, side-scrapers, and scrapers, transverse arrow heads, anvil, borer, burin and fluted cores of cylindrical, oblique and irregular shapes.

Out of the total assemblage, only seventy-nine respective types have been selected for the study, while forty have been illustrated.

<table>
<thead>
<tr>
<th>Tools</th>
<th>Number</th>
<th>Percentage</th>
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</thead>
<tbody>
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<td>Blades</td>
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<tr>
<td>Flakes</td>
<td>17</td>
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<tr>
<td>Points</td>
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</tr>
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<td>Total</td>
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</tr>
</tbody>
</table>

Fig. 8.2: Mesolithic tools, Period-I
Pl. 8.1: Mesolithic tools, Period-1
1. Unifacial tanged point on chalcedony flake with retouched oblique shoulders and partly retained cortex at right margin of ventral surface.

2. Long broad blade on jasper with blunt point and regularly retouched left margin, irregularly flaked medial and plain ventral surface with a flake scar at distal end.

3. Short parallel sided blade on chert, retouched at upper half of left margin and centrally flanked off plain medial ridge.

4. Thin semi crescentic flake blade on carnelian, retouched left margin, partly chipped off right margin and plain medial ridge.

5. Long pointed blade on chalcedony, blunted and convex shaped left margin, sharp vertical right margin and fluted medial.

6. Unifacial scraper of semi circular shape on chert showing uniformly retouched margins and partly chipped off ventral surface.

7. Thin serrated blade on carnelian, retouched on both margins, fluted plain medial, blunt top and obliquely snapped pointed base.

8. Long parallel sided blade on chert, with retouched upper left and sharp right margins and partly chipped off medial ridge.

9. Long thin parallel sided, serrated blade on carnelian, thoroughly retouched margins, partly fluted medial. The ventral surface shows striking platform.

10. Long parallel sided blade on carnelian, with broken distal end, plain margins and fluted medial and partly retouched carved lower end.

11. Short thin, backed bladelet on crystal quartz, blunted left and retouched right margins showing use marks.

12. Narrow, backed bladelet on greenish jasper, blunted convex left margin minutely retouched right margin and fluted plain medial.

13. Backed bladelet on brownish chert with retouched right margin, plain medial ridge and broken tip.

14. Blade on chalcedony with fluted medial, blunted right margin and plain vertical left margin.

15. Parallel sided, serrated blade on dark brownish chert with retouched margins on both surfaces, chipped off medial ridge.

16. Short lunate on chert, blunted bicone right margin, plain vertical right margin marked by use marks and plain medial ridge.

17. Blunted backed blade on chalcedony with tapering sides thoroughly retouched and blunted right margin, sharp vertical left margin and plain medial ridge.

18. Triangle on chalcedony flake, retouched, bicone left margin, plain right margin and plain medial ridge.

19. Triangle on chert, retouched left margin with pointed bicone projection, sharp right margin and plain medial ridge.

20. Thin short point on chalcedony, thoroughly retouched along thick right margin forming into curved base.
Fig. 8.3: Mesolithic tools, Period-I
21. Backed burin on chalcedony, blunted and retouched thick left margin with thick conical lower end.

22. Parallel sided blade on chalcedony with minutely retouched thick left and thin right margins, and fluted medial.

23. Parallel sided thin blade on chalcedony with partly retouched left margin. Sharp margins on either side bear use marks.

24. Parallel sided flake blade on chalcedony with pointed distal end, retouched thin left margin and thick right margin showing cortex and medial marked by flake scar.

25. Thin narrow blade point with tapering sides on chalcedony, thick blunted left and retouched right margin.

26. Short tapering sided blade point on carnelian, with blunt thick right margin, centrally notched left margin and fluted medial on dorsal surface.

27. Thin and short point on chalcedony blade retouched on the thin convex left margin, the plain thick vertical right margin bear use marks.

28. A thin and short blade point on chert, blunted on thick right margin and partially retouched on left margin.

(Fig. 8.3)

1. A jasper flake with one side retouched. The flake as a whole gives the impression of a shouldered point but this shape is a natural one. It might have been used as a point.

2. A quartz flake with a pointed end and a straight cutting edge. It might have been used as a point.

3. Flake blade on chalcedony with one straight cutting edge and an uneven, parallel back.

4. Fluted chert core with long parallel sided flake removed from it.

5. Long flake blade of chalcedony.

6. Lunate made on a chalcedony, blunted back and almost straight cutting edge. One end is broken.

7. Chert flake with a burin tip.

8. Lunate made on a chert flake. Finely finished piece with a straight cutting edge, retouched and blunted back.

9. Blade made on chalcedony with one straight cutting edge, the other side retouched and blunted.

10. Parallel sided blade on chert with a straight cutting edge and uneven back.

11. Blade on chert with retouched and blunted back.

12. Flake on chert with one end broken.

D. MICROLITHIC TOOLS OF PERIOD II

The microliths of this period are essentially flake blade tradition. However, the thick assemblage also constitutes a limited number of prepared flake tools. The blade element of this period is much evolved from its preceding period. The presence of more refined slender blades marked by the practice of extensive but controlled retouching treatment resulted in effective serrated margins. Unlike its preceding period, use of raw material is limited to chalcedony, chert, carnelian and a meagre amount of quartz. The tool types met with include long and medium sized parallel-sided blades, backed blades, pen knife blades, long and thin serrated blades, side and end scrapers and a variety of points including point-cum-burins. Some of the selected specimens of important types have been described below.
Fig. 8.4: Microlithic tools, Period-II

SCALE 1 0 1 2 3 CM
Pl. 8.2: Microlithic tools, Period-II
(Pl. 8.2; Fig. 8.4)

1. Amorphous fluted core on chert with a single striking platform and blade scars on dorsal surface marked by the intact cortex on the ventral surface.

2. Amorphous fluted core on chalcedony showing more than one platform and blade scars on dorsal and ventral surfaces, irregular blade scars and partly retained cortex on dorsal surface.

3. Cylindrical shaped fluted core on chalcedony showing more than one platforms marked by regular blade scars all around the body.

4. Cylindrical fluted core on chalcedony with platform on both ends showing flake scars.

5. Parallel sided blade on carnelian, fully retouched left and right margins, notched top and plain medial ridge.

6. Parallel sided blade-cum-burin on chalcedony, thoroughly retouched right margin, partially retouched lower end, vertically blunted left margin and plain medial ridge.

7. Parallel sided blade on chalcedony marked by plain margins and flaked medial.

8. Short conical shaped blade-cum-point on chalcedony, retouched left upper margin, sharp end point and flaked off medial.

9. Triangle on carnelian, showing partly retouched left margin and plain medial ridge on dorsal surface and minutely retouched left margin of ventral surface marked by snapped base.

10. Almost cylindrical blade on chalcedony, partially blunted and retouched left margin, retouched upper end, partially worked right margin and multi flaked medial ridge.

11. Semi-arch blade-cum-burin on chert, denticulated type of retouching on both the margins, with blunted point on upper end, fluted medial scar on dorsal surface.

12. Long narrow backed blade on chert with blunted thick right margin and plain left margin, pointed upper end and broken base.

13. Backed blade on chert, thick blunted right margin and plain left margin, with broken tip and snapped base.

14. A thin parallel-sided blade on chalcedony with retouched and blunted right margin, plain medial ridge, snapped top and broken base.

15. Short backed blade on chalcedony, with blunted left margin showing conical proximal end, plain medial ridge and plain sharp ridge margin marked by use marks.

16. Short parallel sided blade on carnelian, with retouched left margin and curved base, partially minutely worked out right margin with snapped upper portion.

17. Lunate shaped backed blade on chert, blunted crescentic ridge and plain medial. The left margin of ventral surface shows use marks.

18. Short thin blade point on chert with minutely retouched right margin, plain left margin and obliquely snapped distal end.

19. Thin elongated ovalish shaped blade point on chalcedony with blunted right margin, untouched left margin and plain medial ridge, curved base and broken tip.

20. Short thin blade point on chert with retouched left margin, plain right margin, plain medial ridge and broken tip.

21. Short semi-conical shaped blade point on quartz with retouched left margin
Fig. 8.5: Polished stone tools, Period-II
and sharp right margin, obliquely snapped base and broken tip.

22. Ovalish shaped simple blade on chert, with fluted medial, sharp margins and partly notched circular base on dorsal surface and a flat featureless ventral surface.

E. POLISHED STONE TOOLS OF PERIOD II

Together with microliths of period II, the site has reported a few polished tools, which supplement the surface finds collected in 19751. Since then a few more sites like Tharsa2, Mandhal3, Gadchandur4, Sillawari5, and Pauni6 have reported such finds but are of stray nature. The excavated finds of Kaundinyapura too come from the upper layers of Black and Red ware horizon7.

Described here are three polished celts one each of shale, schist and sandstone. The first two specimens have been reported from the floors of period II while the third has figured as surface find8. All are fairly in good condition with minor chipping here and there.

(Fig. 8.5)

1. Ground celt on pale greenish shale, showing plano-convex cross section, with parallel tapering sides, thin margins marked by irregular flake scars, partly polished lower cutting edge (12.1 x 7.6 x 2.2 cm).

2. Ground celt on greenish chlorite schist showing biconvex truncated cross section with tapering oblique sides, characterized by irregular flake scars, horizontally snapped upper end, slender margins and curved thin cutting edge marked by use marks (7.5 x 6.2 x 2.2 cm).

3. Celt of brownish sandstone showing trapezoidal cross section with well polished dorsal surface, polished oblique margins and semi curved sharp cutting edge marked by deep flake scars. The upper portion and right margins are damaged (6.9 x 4.8 x 1.1 cm).

1. IAR 1975-76, p. 36.
3. Information gathered from Prof. Ajay Mitra Shastri, Nagpur, excavator of the site.
5. Information from Dr. Chandrashekhar Gupta, Nagpur.
6. Source of information same as above.
7. M.G. Dikshit, Excavations at Kaundinyapura, Bombay, 1968, pp. 132-33, fig. 29-1, pl. L-1.
8. Presently housed in the museum of the Department of Ancient Indian History, Culture and Archaeology Nagpur University, Nagpur.
General view of pottery yard at Adam
THE POTTERY

A. INTRODUCTION

Save for the aceramic Mesolithic assemblage of period I, all other cultural horizons at Adam have reported the evidence of composite ceramic industry. On the basis of constituent physical properties it can broadly be classified in to three major groups, (i) Red ware, (ii) Black and red ware, (iii) Black ware, followed by limited amount of Northern Black Polished and Kaolin ware. For potting these wares mainly secondary clay have been used with some exceptions of primary clay. The sub-classified categories of each principle type under different chronological segments have been dealt in detail separately. Majority of the shapes have been turned on medium wheel while some on fast and a few are hand made. The surface treatment of different wares shows self slip, black slip and brown slip. The decorative patterns of black and white pigments showing geometric and floral designs primarily confined to the horizons of period II, sub-period III A and B, while appliqué, incised and stamped decorations become diagnostic to period IV and V.

As regards the technique of firing, the red ware was obtained under oxidized condition, while black and red ware under inverted firing or straight firing condition and black ware under reducing condition. Among the red ware varieties, majority show unoxidized smoky core due to ill and uneven firing. Invariably all varieties of pottery were fired in open kiln.

A relative percentage of occurrences of these wares show dominance of red ware from period II to V. Next comes the black ware which is almost ceases in period V. The percentage of black and red ware show a modest beginning in period II as compared to other two wares but it takes a lead over black ware from sub-period III B and continues to maintain its pace upto period V. The layer wise analysis shown here is based on the ceramic data obtained from Trench no. H7 and ZA5. H7 is a part of cutting in the rampart; hence the layers are restricted to pre-defence level, while ZA5 falls in the habitation area.

TRENCH NO. H7

<table>
<thead>
<tr>
<th>Layer</th>
<th>Red Ware (Percent)</th>
<th>Black &amp; Red Ware (Percent)</th>
<th>Black Ware (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>58 (59.18%)</td>
<td>16 (16.32%)</td>
<td>24 (24.48%)</td>
</tr>
<tr>
<td>16</td>
<td>119 (62.63%)</td>
<td>23 (12.10%)</td>
<td>48 (25.24%)</td>
</tr>
<tr>
<td>Average</td>
<td>177 (56.19%)</td>
<td>39 (13.54%)</td>
<td>72 (25.24%)</td>
</tr>
</tbody>
</table>

TRENCH NO. ZA5

<table>
<thead>
<tr>
<th>Layer</th>
<th>Red Ware (Percent)</th>
<th>Black &amp; Red Ware (Percent)</th>
<th>Black Ware (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>16 (72.72%)</td>
<td>2 (9.09%)</td>
<td>4 (18.18%)</td>
</tr>
<tr>
<td>14</td>
<td>133 (77.77%)</td>
<td>17 (9.94%)</td>
<td>21 (15.78%)</td>
</tr>
<tr>
<td>Average</td>
<td>149 (77.20%)</td>
<td>19 (9.84%)</td>
<td>25 (12.96%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Layer</th>
<th>Red Ware (Percent)</th>
<th>Black &amp; Red Ware (Percent)</th>
<th>Black Ware (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>98 (52.40%)</td>
<td>42 (22.45%)</td>
<td>47 (25.13%)</td>
</tr>
<tr>
<td>12</td>
<td>258</td>
<td>86</td>
<td>77</td>
</tr>
</tbody>
</table>
Average yield of pottery from H7 and ZA5

<table>
<thead>
<tr>
<th>Layer</th>
<th>Red Ware (Percent)</th>
<th>Black &amp; Red Ware (Percent)</th>
<th>Black Ware (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Period II</td>
<td>65.15%</td>
<td>11.49%</td>
<td>24.10%</td>
</tr>
<tr>
<td>Average Sub-period III A</td>
<td>60.86%</td>
<td>18.63%</td>
<td>20.50%</td>
</tr>
<tr>
<td>Average Sub-period III B</td>
<td>57.85%</td>
<td>27.61%</td>
<td>14.50%</td>
</tr>
<tr>
<td>Average Period IV</td>
<td>68.34%</td>
<td>23.36%</td>
<td>10.19%</td>
</tr>
<tr>
<td>Average Period V</td>
<td>91.16%</td>
<td>7.47%</td>
<td>1.68%</td>
</tr>
</tbody>
</table>

B. PERIOD II

Immediately above the aceramic occupational deposit of the Mesolithic period, the site witnessed an industry typical to the Wardha-Wainganga valley. It has shown a distribution pattern confined to the sites located in this valley. Essentially regional in its makeup, the site has shown a few shapes like dish on stand and high necked jar comparable to Malwa and Jorwe cultures of the Central and Western India. It consists of red, black and red and all black wares of, medium to coarse fabric, largely wheel turned with some hand made exceptions. It shows non metallic texture and ill fired smoky core, full of sand particles and organic material. The red slip occurs on the entire upper surface while its interior application is limited to rim portion. Mostly the red ware bear paintings in dull black and white colours showing some noteworthy design elements restricted to exterior rim and shoulder portions with a few exceptions on the interior. The diagnostic shape remained the globular vessels with broad mouth having funnel like rim.

Among the painted pottery, as many as ten types, classified on the basis of fabric, slip and pigment have been noticed. They are (i) coarse fabric red slipped red ware, painted in black (ii) gritty micaceous self slipped red ware, painted in black, (iii) coarse fabric mica mixed dull red slipped red ware, painted in black, (iv) medium fabric mica mixed tan slipped red ware, painted in black (v) coarse fabric chocolate slipped red ware, painted in black, (vi) coarse fabric unslipped red ware, painted in black, (vii) coarse fabric unslipped red ware, painted in white, (viii) coarse fabric red slipped red ware, painted in white, (ix) coarse fabric tan slipped red ware, painted in white and

1. I. Karthikeya Sarma, Patapadu revisited: A new painted pottery culture of South-East India, Puratattva, 1967-68, No. 1, pp. 76-77, fig. 3.
Fig. 9.1: Black painted pottery, Period II
(x) coarse fabric chocolate slipped red ware, painted in white.

The design elements met with include groups of vertical and horizontal lines, band of latticed diamonds, a variety of comb pattern, random wavy lines, series of obliquely aligned dented lines, converging lines, groups of horizontal strokes, series of horizontally dotted lines, series of oblique lines interconnected by groups of horizontal strokes and zig-zag decorations. The shapes, executed with paintings are predominantly of vases, showing out turned rim, splayed out rims and globular body, featureless rim with vertical neck and funnel shaped neck, followed by other shapes like handi, basin, dish and dish on stand, bowl and miniature varieties including vases and basins. The representative specimens bearing black painting and white painting have been described below under separate headings.

(i) **BLACK PAINTED POTTERY**

(Fig. 9.1)

1. Fragment of a storage jar of gritty micaceous red ware, with splayed out plain featureless rim and constricted neck, painted across it in black pigment showing a group of eight vertical lines both on exterior and interior.

2. Fragment of a vase of medium fabric tan slipped red ware with long vertical neck and marginally splayed out featureless rim, externally painted in black pigment showing eight parallel horizontal dotted rows in between followed by probably series of oblique line below.

3. Fragment of a vase of medium fabric red slipped red ware with internally and externally undercut nail headed out turned rim, externally grooved concave neck and globular body. Painted at shoulder portion with black pigment showing a band of thirteen parallel horizontal lines, followed by graffiti decoration depicting three sets of short vertical lines each comprising two and all intersected by a single long horizontal line. This graffiti occur at frequent intervals all around the body, and panelled at bottom by a painted horizontal band.

4. Fragment of vase of coarse fabric red slipped red ware with splayed out, internally grooved thickened rim and constricted neck. Painted with black pigment over the body and across the rim showing group of seven parallel vertical lines on the exterior and five similar ones on interior of rim and a series of obliquely aligned comb pattern design over shoulder portion panelled by group of two parallel horizontal lines at top.

5. Fragment of splayed out rim portion of a vase of medium fabric red ware treated with mica mix red slip. Painted on both faces of rim with black pigment showing group of seven parallel vertical lines on both sides of rim.

6. Fragment of a bowl of coarse fabric red slipped red ware with externally beaded rim, painted with black pigment showing series of obliquely aligned comb pattern design facing to left and each comprising six dents.

7. Fragment of a basin of coarse fabric red ware with beaded rim externally painted with black pigment showing six oblique dotted or dented lines.

8. Fragment of a miniature pot of medium fabric red ware, flared featureless rim, and concave neck painted with black pigment of both the faces with random vertical lines.

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1. The specimen appear to be a variant of Type 2b of period 1 reported from Prakash, cf. B.K. Thapar, Prakash-1955-A Chalcolithic site, AI, 20-21, fig. 8-2b, pp. 39-40.
9. Fragment of a bowl of medium fabric red ware with collared rim angular sides, internally carinated sagger base painted externally with black pigment showing series of thick vertical lines connected to each other by series of thin curvy horizontal lines aligned vertically.

10. Fragment of a basin of coarse fabric red ware with externally beaded rim. It is treated with mica mix dull red slip externally painted with black pigment showing rows of converging lines cutting each other and forming rows of diamond shapes.

11. Fragment of a miniature vase of red ware with funnel shaped neck and out turned rim painted on both the faces with black pigment showing groups of random parallel vertical lines.

12. Fragment of a bowl of coarse fabric red ware, externally treated with mica mix dull red slip showing unoxidized smoky core with featureless rim and incurved sides and painted with black pigment showing a group of six parallel vertical lines on exterior and a series of parallel lines on the interior.

13. Fragment of a flask shaped vessel with cylindrical shaped neck and featureless rim, coarse fabric red ware showing unoxidized core, hand made, painted on exterior with black pigment showing series of vertical lines.

14. Fragment of a dish on stand of coarse fabric red ware with funnel shaped neck and short vertical featureless rim. Painted over neck portion with black pigment showing random vertical lines.

15. Fragment of a bowl of coarse fabric red slipped red ware with externally beaded, under cut rim, painted over body with black pigment showing thick random oblique and horizontal lines.

16. Fragment of a basin of coarse fabric tan slipped red ware showing unoxidized grey core, internally undercut with incurved, collared rim and painted with black pigment showing series of converging lines intersecting each other.

17. Fragment of a bowl of medium fabric red ware, a variant of S. No. 15 above, painted with black pigment showing six random vertical lines followed by a thick horizontal line below on exterior and a group of four vertical lines on interior respectively.

18. Fragment of a vase of coarse fabric red ware with wide-open mouth and externally beaded rim treated with red slip and painted over shoulder with black pigment showing series of horizontal and vertical lines intersecting each other at right angles forming 'mesh' of net design.

19. Fragment of a dish on stand of coarse fabric red slipped red ware with externally grooved and internally turned out featureless rim and incurved sides painted with black pigment showing series of oblique lines intersected by rows of horizontal lines. A group of five vertical lines are also seen on both sides across rim portion.

20. Fragment of a bowl of coarse fabric red slipped red ware with externally under cut collared rim, oblique sides painted in black pigment showing series of obliquely aligned comb pattern.

21. Fragment of a bowl of coarse fabric mica mix tan slipped ware with externally collared rim and incurved oblique sides painted with black pigment showing six parallel horizontal lines, followed by series of
Fig. 9.2: Black painted pottery, Period II
The Pottery

long oblique lines connected by short horizontal line below.

22. Fragment of a bowl of coarse fabric red ware treated with mica mix dull red slip, plain featureless rim and incurved sides and painted with black pigment showing a group of five parallel lines externally and series of random parallel lines internally.

23. Fragment of an upper portion of dish on stand of coarse fabric dull red slipped red ware painted with black pigment showing group of six parallel lines across the rim at frequent intervals and comb pattern design covering exterior and part of interior respectively.

24. Fragment of upper portion of a dish on stand of coarse fabric red ware treated with tan slip and painted externally with black pigment showing a group of five parallel lines and six similar ones on exterior and interior parts of rim followed by a new oblique line connected to each other by obliquely aligned horizontal strokes and panelled at top by two parallel horizontal lines on the exterior.

25. Fragment of a deep bowl of coarse fabric, tan slipped red ware with externally grooved thickened rim and convex sides, painted with black pigment showing a row of obliquely aligned comb pattern.

26. Fragment of a bowl of coarse fabric red slipped ware, with externally under cut thickened rim, painted with black pigment showing rows of oblique comb pattern design.

27. A variant of No. 14 above, of coarse fabric red slipped red ware showing vertical featureless funnel shaped rim and oblique sides, painted externally with black pigment showing series of oblique lines interconnected by series of horizontal strokes. Four lines of a group of random vertical lines are also seen on rim portion.

28. Fragment of a dish of coarse fabric red ware, externally treated with mica mix dull red slip with vertical featureless rim grooved externally, curve sides and obliquely turned sagger base, externally painted on sides with black pigment showing series of vertically aligned six horizontal short strokes connected to each other in segments.

29. Fragment of a handi of medium fabric red ware with beaded rim, short concave neck and convex sides, treated with mica mix dull red slip and painted externally over the body showing series of serrated or dented oblique lines.

30. Variant of No. 27 above, of coarse fabric chocolate slipped red ware with short vertical featureless rim and oblique sides painted with black pigment showing long vertical lines interconnected by small horizontal strokes on exterior and a group of four short vertical lines on interior of rim.

31. Fragment of a dish of coarse fabric red slipped ware with externally grooved featureless rim, convex sides obliquely terminating towards base, painted with black pigment showing obliquely piled up zig-zag strokes with pincer like ends on exterior and two vertical lines inside rim portion.

32. Fragment of a vase of an unslipped red ware with splayed out featureless rim and constricted neck painted with black pigment showing group of three parallel vertical lines on both sides across the rim and a single horizontal band along the neck on its exterior.

(Fig. 9.2)

1. Fragment of a vase of coarse fabric black and red ware, externally painted
Fig. 9.3: White painted pottery, Period II
with black pigment showing series of latticed diamonds, panelled by two parallel horizontal lines on top and eight similar lines at bottom.

2. Fragment of a vase of coarse fabric red ware with splayed out constricted rim, painted across the rim with black pigment showing a group of seven vertical lines on exterior and six vertical lines on interior respectively.

3. Fragment of a vase of coarse fabric black and red ware painted externally with black pigment showing part of a latticed diamond panelled at bottom by four parallel horizontal lines.

5. Fragment of a dish on stand of coarse fabric mica mix dull red slipped ware with externally undercut collared rim and oblique sides painted with black pigment showing eight parallel horizontal lines.

6. Fragment of a vase of coarse fabric red ware, externally treated with red slip and painted with black pigment showing groups of vertically piled up horizontal strokes panelled at top by two parallel horizontal lines.

7. Fragment of a vase of coarse fabric grey ware, treated with red slip. Externally painted with black pigment showing obliquely aligned comb pattern design panelled at top by a single horizontal line.

8. Fragment of a dish on stand of coarse fabric tan slipped red ware with collared rim and semi circular sides, externally painted with black pigment showing “mesh” design bordered by four parallel horizontal lines at top. A group of eight vertical lines occur on exterior and interior across the rim.

(ii) WHITE PAINTED POTTERY

(Fig. 9.3)

1. Fragment of a vase of coarse fabric red ware. Externally treated with tan slip and painted with white pigment showing base portion of a latticed diamond and below it figure a set of seven parallel horizontal bands.

2. Fragment of a vase of coarse fabric red ware, externally treated with tan slip and painted with white pigment showing rows of obliquely aligned comb pattern each showing six dents.

3. Fragment of a hopscotch dressed out of a coarse fabric red ware showing unoxidized black interior and exterior painted with white pigment showing four oblique lines interconnected by a row of six oblique slashes.

4. Fragment of a coarse fabric red ware treated with red slip on both sides, externally painted with white pigment showing panelled comb pattern design consisting of five oblique lines each having six dents.

(iii) Plain pottery

The plain pottery of this period is characterized by the presence of red ware, black and red ware and black ware of medium to coarse fabric. The total assemblage of plain pottery is predominantly of red ware followed by black and black and red wares. The variety of red ware include medium to coarse fabric, micaceous red ware with or without slip, red slip, brown slip and chocolate slip and unslipped dull red ware. The black and red ware is essentially of medium fabric marked by a meager supply of burnished black and red ware, and the black ware is present in medium to coarse fabric with occasional mica mix self slip and burnished slip. The shapes of all the three ware comprise of
Fig. 9.4: Plain pottery which includes red, black and red and black wares, Period II
vases with varying type of rims, basins both in large and medium size, dish and bowl. The bowls are more dominant in black and red and black ware.

The representative illustrated specimens are described below.

(Fig. 9.4)

1. Fragment of a large basin of coarse fabric gritty micacious red ware with externally, obliquely chamfered and deeply grooved vertical rim and grooved incurved sides.

2. Fragment of a bowl of medium fabric dull red ware with externally grooved thin featureless rim and incurved sides.

3. Fragment of bowl of coarse fabric red ware treated with mica mix red slip, with internally grooved and drooping thickened rim and oblique sides.

4. Fragment of a vase of thick coarse fabric red ware showing unoxidized grey core with splayed out featureless rim, short concave neck and convex sides.

5. Fragment of a vase of coarse fabric red ware showing unoxidized smoky core with internally grooved and externally beaded, splayed out thickened rim, short concave neck and oblique sides.

6. Fragment of a vase of coarse fabric red ware treated with red slip showing unoxidized grey core with splayed out, internally thickened, grooved rim and constricted neck.

7. Fragment of a vase of coarse fabric black ware, externally treated with red slip showing flared out featureless rim and oblique sides.

8. Fragment of a vase of medium fabric red ware treated with dull red slip with externally grooved vertical featureless rim and oblique sides.

9. Variant of No. 6, of brown slipped coarse red ware with externally grooved internally thickened splayed out rim.

10. Fragment of a handi of coarse fabric micacious dull red ware treated with mica mix brown slip showing flared out and internally carinated rim with oblique sides.

11. Fragment of a vase of coarse fabric dull red ware treated with mica mix brown slip showing unoxidized smoky splayed out rim, internally short concave neck and oblique sides.

12. Fragment of a basin of medium fabric red ware treated with mica mix brown slip with externally thickened rim and incurved sides.

13. Fragment of a basin of coarse fabric dull red ware externally treated with red slip showing unoxidized smoky core with externally under cut, externally beaded rim and convex sides.

14. Fragment of a bowl of medium fabric black and red ware with vertical featureless rim showing a thin groove on the exterior and convex sides with carinated profile.

15. Fragment of a bowl of medium fabric black and red ware with incurved plain rim showing a thin groove on exterior and diminishing sides bearing grooves over the base.

16. Fragment of a basin medium fabric black ware treated with burnished black slip showing externally under cut thickened rim and convex sides.

17. Fragment of a dish of medium fabric black and red ware with inturmed featureless rim, convex sides.
Fig. 9.5: Black painted pottery of sub-Period III A
terminating into inturned base showing carinated profile.

18. Fragment of a bowl of medium fabric burnished black ware with vertical, featureless, thin edged rim and oblique sides.

19. Fragment of a bowl of medium fabric black ware treated with mica mix black slip showing externally under cut, out turned, thickened rim followed by two grooves on exterior and incurved sides.

20. Fragment of a bowl of medium fabric black ware treated with mica mix black slip with externally grooved thin edge rim and incurved sides.

21. Fragment of rim portion of a vase of medium fabric black ware treated with black slip showing a groove on exterior and concave sides.

22. Fragment of a bowl of medium fabric black ware treated with mica mix black slip with short featureless vertical rim and inturned sides.

23. Fragment of a bowl of medium fabric black ware treated with mica mix black slip showing reverted featureless rim and convex sides.

C. SUB-PERIOD III A & III B

The ceramic industry of this period is marked by continuation of some of the preceding ceramic traditions and introduction of a few more new shapes. Another significant feature noted is the presence of mica dust frequently mixed in all type of slips. Red ware continued to be a major ceramic type followed by black ware occasionally dominating over the black and red ware. Majority of the types noted in both plain and painted ware are of unevenly fired. As in the preceding period, the painted ware is essentially of medium to coarse fabric red ware characterized by the inclusion of a few more design elements like groups of thick wavy lines, diminishing piled up strokes, different variety of converging lines and complex comb patterns.

There are as many as ten different wares in this category. These include (i) coarse fabric red slipped red ware, (ii) coarse fabric unslipped red ware, (iii) coarse fabric black and red ware, (iv) medium fabric burnished black and red ware, (v) medium fabric, tan slipped red ware, (vi) coarse fabric red ware treated with self slip, (vii) coarse fabric tan slipped red ware, (viii) coarse fabric self slipped red ware, (ix) medium fabric self slipped red ware and (x) coarse fabric black and red ware. Of the total assemblage, about one percent potsherd is painted in which the painting executed on types (i) to (v) are in black pigment while the rest bore white. The illustrated specimens of both black painted and white painted pottery of this period are described below, separately.

(i) BLACK PAINTED POTTERY OF SUB-PERIOD III A

(Fig. 9.5)

1. Fragment of a vase of coarse fabric red slipped red ware, painted with black pigment showing series of oblique line, curved horizontal strokes forming comb pattern and panelled at top and bottom by double and single horizontal lines respectively.

2. Fragment of vase of coarse, red slipped red ware painted with black pigment showing comb pattern with irregular alignment of combs in oblique and slanting position panelled by two parallel horizontal lines at top and five similar lines at bottom.

3. Fragment of a vase of red slipped red ware showing coarse fabric unoxidized grey core, painted on shoulder portion
in black pigment showing comb pattern design comprising series of dented oblique lines panelled by two parallel horizontal lines.

4. Fragment of a storage jar of coarse fabric micaceous red ware painted over shoulder portion in black pigment showing comb pattern in double rows occasionally overlapping, below three parallel horizontal lines serve as lower frame.

5. Fragment of a vase of coarse fabric red ware painted externally in black pigment with row of obliquely aligned comb pattern facing to left and panelled below by three wide spaced parallel horizontal lines.

6. Fragment of a vase of coarse fabric black and red ware externally painted with black pigment showing two parallel horizontal lines filled with series of oblique lines of uniform size.

7. Fragment of vase of coarse fabric red ware externally treated with red slip and painted with black pigment showing series of converging lines intersecting each other and panelled by two parallel horizontal lines at top.

8. Fragment of a storage jar of coarse fabric micaceous red ware, externally painted with black pigment showing comb pattern in vertical alignment bordered by three horizontal but wavy lines at bottom in two segments.

9. Fragment of vase of coarse fabric red ware externally painted with black pigment showing incomplete foliage motif in the upper segment followed by a row of four leaves in the form of suspended loops of irregular shape.

10. Splayed out rim fragment of a vase of coarse fabric red ware with unoxidized core, painted with a thick band in black pigment running across the rim on either side.

11. Fragment of a storage jar of coarse fabric red ware painted in black, showing a group of vertically aligned eight wavy lines.

12. Fragment of a storage jar of coarse fabric micaceous red ware externally painted with black pigment showing series of short lines unevenly piled up in diminishing order forming elongated conical pattern.

13. Fragment of a vase of coarse fabric red slipped red ware externally painted with black pigment showing series of oblique, serrated lines panelled at top by two parallel horizontal lines.

14. Fragment of a miniature vessel of medium fabric red ware, externally carinated profile below neck, exterior painted in black showing group of five vertical lines.

15. Fragment of a vase of coarse fabric red ware, externally painted with black pigment showing series of irregular vertical strokes intersected by a thin horizontal line and followed by a border line at the top.

16. Fragment of a miniature vase of coarse fabric red ware externally painted with black pigment showing three oblique lines with corrugated profile and dented ends.

17. Fragment of a miniature vase of coarse fabric red ware externally painted with black pigment showing three horizontal lines of which the lowest one is shown intersecting with six of eight vertical lines.

18. Fragment of a vase of coarse fabric red ware showing unoxidized core and externally treated with tan slip and painted with black pigment depicting 'net' design.
Fig. 9.6: White painted pottery of sub-Period III A
19. Fragment of a vase of coarse fabric red ware with unoxidized core externally painted with black pigment showing series of obliquely serrated lines, bordered by a horizontal band at the top.

20. Fragment of a vase of coarse fabric pale red ware externally painted with series of slating dented lines intersected at bottom by three parallel horizontal lines.

21. Fragment of a vase of coarse fabric tan slipped ware showing unoxidized grey core, externally painted with black pigment showing design of oblique comb pattern extended below a dented oblique line. Both are separated by thin horizontal line.

22. Fragment of a storage jar of coarse fabric red slipped red ware painted externally around neck with black pigment showing a thick wavy line followed by a horizontal band below.

23. Fragment of a vase of medium fabric tan slipped ware with unoxidized grey core externally painted with black pigment with a design comparable to S. No. 12 above, with an addition of incomplete set of three and four small oblique strokes seen separately in the upper segment.

24. Fragment of a vase of coarse fabric red ware, treated with red slip, painted externally around neck with black pigment showing a thick wavy line followed by a horizontal band below.

25. Fragment of a vase of coarse fabric tan slipped red ware with unoxidized grey core externally painted in black pigment showing a variant of Sl. No. 12 with an incomplete set of small oblique strokes intersecting at the top.

26. Fragment of a vase of coarse fabric red ware, treated with red slip, externally painted with black pigment showing a single horizontal line intersected by a group of eight short vertical lines followed by a series of incomplete short horizontal strokes in vertical order.

27. Fragment of a vase of medium fabric red ware, treated with tan slip externally painted with black pigment showing a series of dots aligned in vertical order, followed by series of short horizontal strokes.

28. Fragment of a vase of coarse fabric red ware, externally painted with black pigment showing incomplete design of defusing strokes formed in all direction and possibly converging in the centre.

29. Fragment of a dish of coarse fabric red ware, internally painted with black pigment showing incomplete design of defusing strokes formed in all direction and possibly converging in the centre.

(ii) WHITE PAINTED POTTERY OF SUB-PERIOD III A

(Fig. 9.6)

1. Fragment of a vase of coarse fabric tan slipped red ware, externally painted over shoulder in white pigment showing series of latticed diamonds panelled by two parallel horizontal lines at top and eight similar lines at bottom.

2. Fragment of a vase of coarse fabric black and red ware, externally treated with red slip and painted over shoulder in white pigment showing a variant of Sl. No. 1 with a single horizontal border line at the top.

3. Fragment of a vase of coarse fabric brown slipped red ware, externally painted over shoulder portion with white pigment showing a variant of Sl.
No. 1 with a couple of horizontal border lines at the top.

4. Fragment of a vase of coarse fabric red ware, externally painted with white pigment showing series of obliquely aligned comb pattern bordered by five incomplete parallel horizontal lines at bottom.

5. Fragment of a basin of coarse fabric red ware, treated with red slip painted externally showing a series of incomplete vertical strokes.

6. Fragment of a vase of coarse fabric red ware, externally painted with white pigment showing design of comb pattern panelled at the top and bottom by horizontal lines.

7. Fragment of a vase of coarse red slipped red ware, externally painted with white pigment showing obliquely aligned comb pattern.

8. Fragment of a dish-on-stand of coarse fabric tan slipped ware showing unoxidized black core, painted externally with white pigment showing obliquely aligned comb pattern, panelled at the top by four parallel horizontal lines and by two similar lines at the bottom.

9. Fragment of a vase of coarse fabric tan slipped ware, painted externally with white pigment showing design of comb pattern.

10. Lower fragment of a dish on stand of coarse fabric red ware, externally treated with red slip painted in white with parallel horizontal lines.

11. Fragment of a vase of red slipped red ware of coarse fabric showing unoxidized black core painted externally with white pigment showing 'mesh' design.

12. Fragment of a vase of medium fabric red ware, externally treated with red slip and painted in white showing design similar to Sl. No. 11.

13. Fragment of a vase of coarse fabric tan slipped ware, showing painted design similar to Sl. No. 11.

14. Fragment of a vase of coarse fabric black and red ware, treated with red slip painted externally with white pigment showing series or horizontal notches and strokes aligned in convex pattern and panelled at the top by four parallel horizontal lines.

15. Fragment of a vase of coarse fabric red slipped red ware, externally painted with white pigment showing a group of four vertical lines of which extreme left has a bubble end, followed by another group of two vertical lines of thick variety.

16. Fragment of a vase of coarse fabric red ware, painted externally over the shoulder in white pigment showing incomplete crisscross pattern.

(iii) BLACK PAINTED POTTERY OF SUB-PERIOD III B

The ceramic assemblage of this sub-period witnesses the introduction of a few wares of Megalithic affinity. Likewise, it also witnesses a few new painted design elements, besides continuance of paintings of the preceding period. The most important thing noted in this phase is the absence of white painting.

Among the red ware types, the coarse fabric micaceous red ware continues to dominate the assemblage, followed by medium fabric red slipped red ware and brown slipped red ware. Another significant feature noted is an increase in black and red ware varieties while black ware considerably decreased.
Fig. 9.7: Black painted pottery of sub-Period III B
As noted above, the assemblage of painted pottery undergone significant changes at the same it maintains the design elements of the preceding phase. For example, rows of latticed diamonds panelled with multi-horizontal lines, variants of comb pattern and ‘mesh’ pattern continues to occur. The new design elements noticed are converging comb pattern, serrated end pattern, rows of vertically piled up short horizontal strokes and ‘fence’ like designs showing a series of bands intersected at regular intervals, besides geometric and floral pattern. The above two designs have occurred in combination with other designs.

All four types of painted ware have been noticed in this phase i.e. (i) coarse fabric mica mix self slipped red ware, (ii) coarse fabric unslipped red ware, (iii) coarse fabric chocolate slipped red ware and (iv) medium fabric mica mix tan slipped red ware. Paintings are confined to the exterior of neck and shoulder portions of vase and upper and lower portions of dish on stand varieties, while a few dish fragments show paintings on its interior. The illustrated specimens are described below:

(Fig. 9.7)

1. Fragment of a vase of coarse fabric, mica mix red slipped ware with unoxidized grey core, externally painted over shoulder portion with black pigment showing a series of four latticed diamonds panelled at top and bottom by single horizontal lines.

2. Fragment of a vase of coarse fabric chocolate slipped ware, externally painted with black pigment showing series of three latticed diamonds panelled at top by two parallel horizontal lines and at bottom by seven lines.

3. Fragment of a vase of coarse fabric red ware, externally treated with red slip and painted with black pigment showing series of four latticed diamonds, each characterized by single thick line panelled at top by two parallel horizontal lines and at bottom by seven lines.

4. Fragment of a vase of tan slipped coarse fabric red ware, showing unoxidized grey core and painted externally with black pigment depicting ‘mesh’ design followed by a series of five oblique dented bands, below.

5. Fragment of a vase of mica mix red slipped coarse fabric red ware, externally painted with black pigment showing a variant of Sl. No. 4 followed by two oblique dented bands.

6. Fragment of a vase of coarse fabric red ware, externally painted with ‘mesh’ like design.

7. Fragment of a vase of coarse fabric red ware treated with red slip, externally painted with black pigment showing a variant of Sl. No. 5 while the incomplete lower bands are curved to left.

8. Fragment of a vase of coarse fabric red ware treated with red slip externally painted with black pigment showing part of a latticed diamond underlined by six parallel horizontal lines followed by a series of four incomplete tapering bands.

9. Fragment of a vase of coarse fabric red ware treated with mica mix tan slip, painted with black pigment, depicting series of obliquely arranged comb pattern, panelled by a single horizontal line at top and bottom respectively, below it, are seen by a row of obliquely converging ‘comb’ lines intersected at the top and in centre by a group of two parallel horizontal lines.
10. Fragment of a vase of medium fabric red ware treated with tan slip, externally painted with black pigment showing four parallel horizontal lines intersected by a series of irregular vertical strokes forming a 'mesh' pattern, followed by a series of five oblique dented bands, a variant of Sl. No. 4.

11. Fragment of a vase of coarse fabric red ware, externally painted with black pigment showing series of oblique lines each connected with series of diagonal oblique strokes to right at its lower end forming like a brush with handle.

12. Fragment of a vase of coarse fabric red ware treated with red slip and painted on shoulder with black pigment showing series of oblique dented bands panelled by a single horizontal line at top and bottom respectively.

13. Fragment of a vase of coarse fabric red slipped red ware with short concave neck and globular body externally painted with black pigment showing a single horizontal band around the neck and three over shoulder followed by series of oblique bands showing five short curves at its lower ends forming loops.

14. Fragment of a vase of coarse fabric red ware, externally treated with tan slip and painted with a row of obliquely aligned comb pattern panelled by two parallel horizontal strokes above and eight similar lines below.

15. Fragment of a vase of coarse fabric red ware, externally treated with tan slip and painted with black pigment showing closely aligned oblique comb pattern.

16. Fragment of a vase of coarse fabric mica mix red slipped ware showing the unoxidized grey interior, externally painted with black pigment showing a series of comb pattern followed by a series of convex dented bands, both separated by three parallel horizontal lines.

17. Fragment of a vase of coarse fabric mica mix red slipped ware showing unoxidized grey interior, externally painted with black pigment showing a variant of comb pattern panelled at top by two and at bottom by three parallel horizontal lines.

18. Fragment of a lower part of dish on stand made of coarse fabric red ware, treated with tan slip on both faces and painted with black pigment showing a variant of comb pattern panelled by two horizontal lines at top and three at bottom.

19. Fragment of a concave sided stem of dish on stand of coarse fabric red ware, treated with red slip on both faces and externally painted around upper and lower portions base with black pigment showing a variant of comb pattern panelled by couple of horizontal lines.

20. Fragment of a stem portion of a dish on stand of coarse fabric red ware, treated with red slip on both surfaces, painted with black pigment showing a series of lozenges panelled at top by two parallel horizontal lines.

21. Fragment of a vase of coarse fabric red ware, externally treated with tan slip and painted with black pigment showing five parallel horizontal lines of which the top two are of thick variety, followed by a thick horizontal band and four horizontal parallel lines of which the last one is of thick variety. Below it a sunflower like motif is seen.

22. Fragment of a vase of coarse fabric red slipped red ware, externally painted
with black pigment showing sunflower symbol and another smaller version of it on its upper left margin.

23. Fragment of a vase of coarse fabric hand made micacious red ware, externally painted with black pigment showing two rows of vertical comb pattern one above the other.

24. Fragment of a vase of coarse fabric, hand made, micacious red ware, externally painted with black pigment showing two staggered rows of vertically arranged horizontal strokes of which the upper strokes have forklke attachments.

25. Fragment of a vase of coarse fabric micacious red ware, externally painted with black pigment showing four parallel horizontal lines intersected by three tapering uprights at regular intervals, forming a 'fence' like design.

26. Fragment of a vase of coarse fabric micacious red ware, externally painted in black showing six parallel horizontal lines, upper line supports six vertical strokes, while two bottom lines are intersected by three.

27. Fragment of a dish of coarse fabric red ware, treated with mica mix red slip on both the faces, painted internally with black pigment showing multi groups of vertical strokes in three rows.

28. Fragment of a dish of coarse fabric red ware, treated on both exterior and interior with mica mix red slip and painted internally with black pigment showing vertically piled up curved horizontal strokes with one end in random fashion.

29. Fragment of a vase of coarse fabric dull red slipped red ware, externally painted with black pigment showing ten rows of vertically piled up short horizontal strokes of which one row has thick and larger strokes, lower segment shows single horizontal line and series of vertical lines connected to it.

30. Fragment of a vase of coarse fabric red ware, externally painted with black pigment showing series of oblique bands, lower portion forming into 'broom end' shape.

31. Fragment of a vase of coarse fabric red slipped red ware, externally painted with black pigment showing a row of inverted triangles with a wavy line bordering it on the top and a horizontal line on the bottom. Few arched slashes are seen below.

(iv) PLAIN POTTERY OF SUB-PERIOD III A & III B

The pottery of sub-period III A has witnessed the continuation of some Chalcolithic ceramic traditions. However, the supply of coarse fabric red ware and gritty micacious red ware is more than its preceding period. Of medium to coarse fabric, the plain ware is occasionally slipped with mica mix self slip, red slip and brown slip. The black ware of medium to coarse fabric often treated with self-slip or without, occurs in more frequency than black and red ware.

The black and red ware continues in lesser frequency. It is of coarse fabric with occasional burnished exterior. The shapes met with include vases with splayed out rim and constricted neck, vases with globular body, vases with inturned rim and globular body, pedestal bowls, spouted vessels and dishes.

The pottery of sub-period III B is marked by an increase of black and red ware and corresponding fall in the black ware, whereas, the red ware continues to remain as a dominant type of the
Fig. 9.8: Plain pottery, sub-Period III A and III B
assemblage. There are noted as many as eight types of wares i.e. (i) coarse fabric gritty micaceous self slipped red ware, (ii) coarse fabric dull read ware with red slip and mica dust mix brown slip, (iii) medium fabric burnished red ware, (iv) coarse fabric black and red ware (v) medium fabric burnished black and red ware, (vi) coarse fabric mica mix black slipped black ware, (vii) medium fabric black ware with mica mix brown slip and (viii) medium fabric burnished black ware.

The important shapes met with includes vases with flared out thickened rim and externally grooved tapering neck, vases with internally grooved and thickened flared out rim, bowls, deep bowls with everted rims and conical shaped lid cum bowls.

The representative pottery types of both the phases are described below.

(Fig. 9.8)

1. Fragment of a large basin of coarse fabric gritty micaceous red ware, treated with red slip with internally cut and externally vertical thickened rim, and grooved shoulder showing serrated profile (sub-period III B).

2. Fragment of a vase of coarse fabric micaceous red ware, externally treated with mica mix red slip with obliquely flared out rim, carinated neck and globular body (sub-period III A).

3. Fragment of a large bowl of coarse fabric red ware, treated with mica mix red slip with featureless rim and in turned oblique sides (sub-period III A).

4. Fragment of a vase of medium fabric red ware, externally treated with mica mix red slip showing splayed out rim with internally cut and grooved rim, showing carinated short concave neck and grooved convex sides forming globular body (sub-period III A).

5. Fragment of vase of coarse fabric red ware, showing unoxidized black core and mica mix red slipped ware with splayed out featureless thickened rim, carinated short concave neck and externally grooved oblique sides (sub-period III A).

6. Fragment of a bowl of coarse fabric red ware, treated with mica mix red slip showing plain thickened rim, externally grooved neck and inturned oblique sides. (Period III A).

7. Fragment of a disk of medium fabric burnished red ware with inturned featureless rim, convex sides and obliquely inturned carinated base (sub-period III B).


10. Fragment of a vase of coarse fabric gritty micaceous red ware, treated with self slip showing horizontally flared out, internally grooved thickened rim; externally multi grooved obliquely wider neck and oblique sides (sub-period III B).

11. Fragment of a spouted water vessel of coarse fabric red ware, treated with mica mix dark brown slip showing obliquely inclined short featureless rim, ridged shoulder and convex sides with obliquely cut channelled spout (sub-period III B).

12. Base fragment of a pedestal bowl of coarse fabric red ware, showing hollow circular base with oblique sides,
flanged projection and concave profile (sub-period III A).

13. Fragment of a vase of coarse fabric red ware, showing red slipped exterior and unoxidized grey core with internally curved splayed out grooved thickened rim, short concave neck and oblique sides (sub-period III B).

14. Fragment of a vase of coarse fabric micacious red ware, treated with self slip showing splayed out, internally thickened ledged and grooved rim and concave neck (sub-period III B).

15. Fragment of a hand made vase of coarse fabric micacious dull red ware, showing unoxidized grey core splayed out featureless rim, internally carinated short concave neck and globular body (sub-period III B).

16. Fragment of a bowl of coarse fabric red ware, treated with self slip showing vertical thickened featureless rim and obliquely inturned convex sides (sub-period III B).

17. Fragment of a vase of coarse fabric red ware, treated with red slip showing unoxidized smoky core with internally grooved inturned thickened rim, short concave neck and oblique sides (sub-period III B).

18. Fragment of a vase of coarse fabric black ware, externally treated with mica mix black slip showing spayed out featureless rim, internally carinated short concave neck and oblique sides (sub-period III B).

19. Fragment of a vase of medium fabric black burnished ware with externally grooved splayed out featureless rim, internally carinated short concave neck and oblique sides (sub-period III B).

20. Fragment of a deep bowl of medium fabric, black and red ware with everted thin edged rim and convex sides (sub-period III B).

21. Fragment of a dish of medium fabric black and red ware with thickened, vertical, featureless rim convex sides, terminating into inturned oblique base showing carinated profile (sub-period III A).

22. Fragment of a funnel shaped bowl of medium fabric burnished black ware with horizontally splayed out, short rim, externally grooved vertical neck and inturned oblique sides (sub-period III A).

23. Fragment of a deep bowl of medium fabric black and red ware with everted featureless rim and convex sides (sub-period III A).

24. Fragment of a handi of medium fabric black ware, externally treated with mica mix self slip showing grooved splayed out rim, short concave neck, carinated interior and convex sides (sub-period III B).

25. Fragment of a bowl of medium fabric black and red ware with thin edged rim, showing a groove on exterior and incurved sides (sub-period III B).

26. Fragment of a dish of medium fabric black slip, showing featureless vertical rim and inturned oblique sides with carinated profile (sub-period III B).

27. A variant of Sl. No. 25 of medium fabric black and red ware with internally, obliquely undercut featureless rim and inturned sides (sub-period III A).

D. PERIOD IV

The ceramic assemblage of this period is characterized by the presence of
Fig. 9.9: Plain pottery, red ware, Period-IV
some more new shapes of mica mixed and plain red wares with and without slip of medium to coarse fabric. The red ware of brown and chocolate slips of the preceding period show a tendency of discontinuance. The black and red ware available in medium to coarse fabric shows a few shapes with thin section. Burnishing of this ware partially continues. Another notable feature is marked by drastic fall in the supply of black ware and black painted red ware.

The occurrence of vases of the preceding period with flared out, featureless rim with constricted neck and multi-grooved neck has remarkably been reduced. It has been replaced by a variety of vases with undercut rim, drooping rim, beaded rim and chamfered rim. However, the basin of the preceding period has shown its occurrence with a variety of shapes with different types of rims and multi grooved exteriors. The bowls too have shown different profiles and rims. The overall shapes met with are vase, basin, bowl, dish and lid cum bowl.

Barring a few red ware oblique sided funnel shaped bowls, majority of the black and red ware deep as well as shallow bowls show everted rims, with incurved side. In addition, the site has also witnessed a meagre supply of the diagnostic Northern Black Polished Ware and a few decorated red ware bearing appliqué and other design elements. The representative types are described below.

(i) **PLAIN POTTERY**

(Fig. 9.9)

1. Fragment of a large basin of gritty micaceous red ware, treated with mica mix red slip showing unoxidized grey core with internally grooved plain featureless rim distinguished by the external ridges and diminishing sides with serrated profile.

2. Variant of No. 1 with single ridge showing carinated profile and diminishing sides.

3. Fragment of a large basin of coarse fabric red ware with externally plain and internally under out, thickened rim and externally grooved body.

4. Fragment of a large basin of gritty micaceous red ware, externally treated with mica mix red slip showing internally grooved vertical featureless rim with carinated profile.

5. Fragment of a vase of coarse fabric red ware with splayed out featureless rim and oblique shoulders.

6. Fragment of a basin of coarse fabric red ware, treated with red slip showing unoxidized smoky core with internally grooved and externally chamfered rim and oblique sides with oblique off set ridge.

7. Fragment of a bowl of coarse fabric red ware, externally treated with red slip showing unoxidized smoky core with incurved featureless rim, externally grooved neck and diminishing sides.


9. Variant of Sl. No. 7 showing vertical featureless rim and convex sides with the exterior, distinguished by a groove and ridge.


11. Fragment of a vase of coarse fabric red ware, externally treated with red slip
Fig. 9.10: Plain pottery, red ware, black and red ware, Period-IV
showing beaded vertical thickened rim characterized by externally grooved convex sides.

12. Fragment of a vase of coarse fabric red ware, externally treated with mica mix red slip showing grooved and internally multi grooved splayed out featureless rim, constricted neck and oblique sides.

13. Fragment of a handi of coarse fabric red ware, treated with mica mix red slip with internally and externally grooved splayed out rim and convex sides.

14. Fragment of a bowl of medium fabric red ware with plain featureless rim and incurved sides.

15. Fragment of a bowl of coarse fabric red ware, treated with red slip with incurved thickened rim, grooved on both sides and incurved sides.

16. Fragment of a vase of coarse fabric red ware, treated with red slip showing externally thickened, beaded rim and oblique sides.

(Fig. 9.10)

1. Fragment of a vase of coarse fabric micacious red ware with internally bevelled and externally under cut thickened rim, short vertical neck and oblique shoulders.

2. Fragment of a basin of coarse fabric micacious red ware with externally under cut, horizontally flared out thickened rim showing carinated interior and oblique sides marked by a groove on exterior.

3. Fragment of a vase of coarse fabric micacious red ware with internally obliquely cut and externally flared out, beaded, thickened rim and oblique shoulders.

4. Fragment of a vase of coarse fabric red ware treated with red slip, showing internally under cut and grooved horizontally, elliptical thickened rim, externally grooved and short concave neck.

5. Fragment of a vase of medium fabric red ware with externally beaded out turned rim, short vertical neck and semi convex sides.

6. Fragment of a shallow dish of medium fabric red slipped ware with horizontally elliptical rim and short concave sides terminating into sagger base showing carinated profile.

7. Variant of No. 3 with grooved interior and prominent concave neck.

8. Fragment of a vase of medium fabric red ware with internally beaded thickened rim and obliquely swollen sides.


10. Fragment of a vase of medium fabric red ware, externally treated with red slip showing internally sloppy and externally under cut vertical thickened rim and concave neck.

11. Fragment of a vase of medium fabric red ware treated with red slip with externally grooved short and out curved, thickened rim and globular body.

12. Fragment of a lid cum bowl of medium fabric red ware with beaded thickened

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1. Reminiscent of Ahichchhatra 10a type, See A. Ghosh and K.C. Panigrahi, The Pottery of Ahichchhatra, District Bareilly, U.P. A I, I, 1946, p. 43, Fig. 1.
13. A variant of No. 12 of unslipped red ware with short vertical featureless rim flanged waist and oblique sides.


15. Fragment of a vase of coarse fabric mica mix black ware with flared out, internally bevelled and externally thickened rim and short concave neck with carinated interior.

16. Fragment of a jar of plain red ware with internally carinated neck and pear shaped body.

17. Fragment of a bowl of medium fabric black ware with externally grooved, everted rim and convex sides.

18. Fragment of a vase of coarse fabric micaceous red ware with flared, horizontally elliptical rim and externally multi grooved concave neck.


20. Fragment of a bowl of fine fabric red ware with plain featureless rim, grooved interior and flat base.

21. Fragment of a basin of coarse fabric red ware, treated with red slip showing thickened vertical rim, grooved interior and oblique sides.

22. Fragment of a basin of coarse fabric deep red ware with horizontally flared elliptical rim, internally carinated short concave neck, obliquely expanding sides terminating into sagger base showing carinated profile.

23. Fragment of a vase of medium fabric red ware with externally grooved vertical rim, followed by concave neck.

24. Fragment of a bowl of medium fabric black and red ware with featureless rim, vertical sides and incurved base.

25. Fragment of a basin of coarse fabric red ware with flared out rim, short concave neck showing carinated interior and convex sides.

26. Fragment of a dish of medium fabric black and red ware with featureless everted rim, semi-convex sides and flat base.

27. Fragment of a bowl of medium fabric with everted rim and convex sides, showing features of sagger base.

28. Fragment of a dish of medium fabric black and red ware with vertically thin edged featureless, rim, straight sides and flat base.

29. Fragment of a bowl of medium fabric black and red ware with sharpened rim and incurved sides.

30. Fragment of a vase of medium fabric red ware treated with red slip with splayed out featureless rim internally painted with a horizontal line in black pigment and constricted neck.

31. Fragment of a bowl of medium fabric black and red ware with everted rim, convex sides, showing features of flat base.

32. Fragment of a bowl of medium fabric black and red ware with plain featureless rim and incurved side.

33. A variant of No. 30 of a vase of medium fabric red ware with splayed out featureless rim, internally painted with a horizontal line in black.
34. Fragment of a dish of medium fabric black and red ware with vertical featureless rim and externally grooved and incurved sides.

35. Fragment of bowl of medium fabric black and red ware with vertical featureless rim and incurved sides.

(ii) NORTHERN BLACK POLISHED WARE

The distinct Northern Black Polished Ware (NBPW), distinguished by its striking lustrous surface and metallic structure is widely reported from the Gangetic basin. Krishna Deva and Wheeler have coined the name of this ware and published a distribution map. But the nomenclature of this ware appears somewhat misleading when the ware has now been found distributed beyond the Ganga plains and the sherds other than of black colours have also come to light. A couple of excavated sites of the Wardha-Wainganga valley namely Kaundinyapura and Pauni have reported this ware in a stratified context.

The site has reported thirteen NBPW sherds of well lavigeted fine monochrome variety of steel grey shiny black and metallic blue colour. Couple of specimens bear a thin layer of pinkish shade in between the glossy surface and greyish core. But for three specimens all show thin section. Of the thirteen specimens nine are described below:

(Pl. 9.1)

1. Fragment of a bowl with metallic blue surface showing featureless rim and vertical side. The greyish section show a thin pinkish layer below polished surface on either side, striation marks are seen on the either side.

2. Fragment of a bowl of metallic blue surface with slender featureless rim and convex sides. The greyish section shows a thin pinkish layer below polished surface on either side.

3. Fragment of a bowl with shiny black surface showing a thin greyish section, marked by pinkish layer below polished surface on either side.

4. Fragment of a bowl with shiny black surface, showing a thin greyish section, marked by pinkish layer below polished surface on either side.

5. Fragment of a bowl with shiny black surface, showing featureless rim and vertical sides, greying section.

6. Fragment of a bowl with shiny black surface showing a thin greyish section of pinkish layer below polished surface on either side.

7. Fragment of a pot with vertical sides in steel grey colour marked by a thin section and striated interior.

8. Base fragment of a dish in shiny black colour marked by a thin section and striated interior.

9. Fragment of a bowl in steel grey colour showing the section. The interior is marked by silver like glossy surface.

(iii) DECORATED POTTERY

The site has witnessed the advent of decorated pottery in this period distinguished by appliqué and stamped decoration. It is observed that frequency of decorated ware in relation to the plain wares of this period is very less. The material evidence though less in
Pl. 9.2: Decorated Storage bin, after restoration, Period-IV

Fig. 9.11: Decorated Pottery, Period-IV; for sl. no. 1 also see Pl. 9.7
quantum, does indicate about the existence of a specialized craft of pottery decoration that had made a humble beginning at the site. The decorations are noticed largely on medium fabric red ware and huge storage jars of coarse fabric red ware invariably treated with red slip. The vase shapes show appliqué decoration of horizontal band with roundels. However large storage jars are extensively decorated. The decoration pattern comprises geometric, floral, animal and auspicious symbols. Five fragments of storage jar are described below. A storage bin embellished with floral and faunal design elements is described separately.

(Pl. 9.7; Fig. 9.11)

1. Fragment of a storage jar of coarse fabric red ware showing unoxidized black core. The appliqué band is decorated with a series of medal. Here, it depicts a floral motif having six circular petals arranged around a circular carpel. Another petal of medal is at lower right (Pl. 9.7).

2. Fragment of a storage jar of coarse fabric micaceous red ware treated with self-slip showing unoxidized smoky core. The decoration over shoulder comprises a horizontal appliqué band showing a set of three roundels, triangular notches occur below the band, placed between the roundels.

3. Fragment of a jar of coarse fabric red ware showing unoxidized smoky core, and externally treated with mica mix pale brown slip, the decoration comprises a row of overlapping circles.

4. Fragment of a large storage vase of coarse fabric micaceous red ware, externally treated with mica mix bright red slip showing a horizontal band of appliqué roundels.

5. Fragment of a storage jar of coarse fabric mica mix dull red ware showing unoxidized smoky core and an applique decoration comprising a band of appliqué roundel followed by a horizontal appliqué band bearing series of oblique indentation.

(a) Storage Bin

(Pl. 9.2, Pl. 9.6)

Heavy duty fragments of a handmade storage bin have been seen on a floor being reused as pavement in the cuttings of trench no. R14 (Pl. 9.6). Some of the fragments retrieved from the floor have been restored carefully to give a shape to the bin (Pl. 9.2). It now a gives a look of large storage bin of cylindrical shape with a flat base. The exterior portion is tastefully decorated with floral and faunal motif. It is of coarse fabric red ware showing thick section and diamond shaped heavy carinated rim, marked by two rows of stamped conical on the upper and lower outer surface and few horizontal hatchings restricted to the upper surface. The hemispherical exterior portion of the bin bears composite decoration showing a five armed radiating motif within a circle and surrounded alternately by triratna and floral medallions all along. To the left is seen a nandipada and two more flower medallions above and below. One large circular floral motif of appliquéd variety with six bi-petals, a central carpel and a stalk is depicted on the further left followed by a large oblique line marked by a spiral end at left top occurring over the head of a surging elephant to right. There are a couple of floral medallions seen below and above the trunk, besides a circular vent in the lower part. The vent either functioned as outlet or for air circulation inside the bin as preventive measure for grains. Below the decorative elements, a chain like border of double rows can be seen.
E. PERIOD V

The ceramic assemblage of this period shows emergence of new wares and intricate decorative patterns that revolutionized overall ceramic assemblage at the site. Barring, the large storage jars and vases, majority of the shapes were formed out of fast wheel. Besides a few black and red ware varieties, the principal types of wares noted are (i) coarse fabric gritty micacious red ware with self slip, (ii) coarse fabric red ware with red or grey slip, (iii) medium fabric red and dull red wares of red brown and chocolate slip, (iv) fine fabric red polished ware (RPW), (v) fine fabric unslipped red ware and (vi) fine fabric kaolin ware. The above specified categories represent both decorated and plain varieties.

Apparently, the qualitative and quantitative upsurge in the ceramic industry during this period is further compounded by the occurrences of other cultural components, indicating a paradigm shift in the economic pattern of the site. Exemplary ceramic components of the site testify as indicator of mass production and consumption systems and also serve as a distinctive feature of this period. Some of the ceramic types found at the site namely decorated wares of red and kaolin variety, red polished ware, Megarian ware, rouletted ware, multi-lipped vessels, knobbed ware, cut ware etc., described below, are testimonials to the above noted statement.

(i) PLAIN POTTERY

The plain pottery of this period witnessed the continuation of some of the preceding pottery types, besides introduction of some new characteristic type, predominantly of red ware tradition. A notable feature of the assemblage is the sporadic occurrence of black and red ware and diminishing frequency of black ware. A lusture in the ceramic industry was gained with the introduction of fine fabric red polished ware and gray ware. The kaolin ware is available in the short supply while the other diagnostic Satavahana ceramic, namely russet coated ware is conspicuously absent.

Among the plain variety, seven prominent types have been classified from the assemblage, namely, (i) coarse fabric micacious red ware, (ii) coarse fabric red ware with mica mix red slip, (iii) medium fabric dull red ware, (vi) medium fabric red ware treated with red or brown slip, (v) fine fabric polished red ware, (vi) fine fabric unslipped red ware, (vii) fine fabric kaolin ware and (viii) grey ware.

The shapes met with include vase, jar, sprinkler, basin, bowl, lid cum bowl, lid, cup, lamp, miniature pots and other types. The types of each shape are listed below:

(i) Vase: The types of vases, noticed consists of (a) storage vases with thick flared pointed rim, concave neck and convex sides, (b) vases with flared out drooping thickened rim, short concave neck and globular body, (c) vases with collared rim and globular body, (d) vases with out turned thickened rim and convex sides, (e) vases with out turned thickened flared rim and oblique sides, (f) vases with externally under cut drooping rim, tapering neck and oblique sides, (g) vases with externally chamfered rim and oblique sides, (h) vases, with multi lipped wavy rim, vertical neck, oblique shoulder, and inturned or straight sides and (i) vases with squatted bicone sides, predominantly made on red ware of coarse fabric to medium and fine fabric polished red ware. Majority of the shapes are turned in fast wheel, while a few are hand made.

(ii) Jars: The storage jar shapes are having thick nail headed rim with oblique sides and thick faceted rim
with a surface of gritty micaceous or coarse fabric red ware of hand made variety.

(iii) Sprinklers: The types of sprinklers shapes noted are (a) long conical necked sprinkler with conical shaped nozzle and globular body and (b) long tapering neck globular body and cylindrical nozzle with or without inlet. Some of the sprinklers were provided with either a single or double air passage holes. Made of medium to fine fabric plain or polished red wares.

(iv) Basins: The types of basins noted are (a) thick nail headed rim and incurved sides of larger variety, (b) flared out rim and straight convex sides of common variety and (c) basins with curved sides and decorated handles, made of medium to coarse fabric red ware.

(v) Bowls: The important types noted in bowl include (a) bowl with featureless rim, oblique sides and string cut base, (b) bowl with plain featureless rim incurved sides and flat base, (c) bowl with inverted rim and carinated sides and (d) bowl with thin, beaded rim and grooved exterior, made of fine to medium fabric red ware and fine fabric kaolin ware.

(vi) Lids: The prominent types in lids noted are (a) lid with short featureless rim, semi-spherical profile and with or without knob, (b) saucer shaped lid with knob and (c) lid with flanged waist and curved profile made of medium to coarse fabric.

(vii) Cups: The types noticed in cups are confined to cup with sharpened rim and oblique sides and cup with button stand. Made of fine to medium fabric red ware.

(viii) Dish: The important types met in this category include (a) shallow dish with flared out rim and carinated base and (b) dish with incurved featureless rim and straight sides, flat base made of medium fabric dull red ware to brick red ware and fine fabric polished red ware.

In addition, the other shapes noted include (i) spouted water vessels of medium to coarse fabric, dull to bright red ware, (ii) lamps of plain and beaked variety on coarse fabric red ware, (iii) multi flanged finials of medium to coarse fabric red ware, occasionally treated with mica mix fine red slip, and (iv) miniature pottery, the shapes of which ranges from a variety of vases, bowls, lids and to jar types of fine to coarse fabric red ware predominantly treated with bright red slip.

The selected plain pottery types have been described with the help of illustrations.

(Fig. 9.12)

1. Bowl of coarse fabric red ware with externally chamfered and internally undercut sloppy thickened oblique rim and sides showing corrugated profile.

2. Fragment of a large storage jar of coarse fabric red ware showing unoxidized smoky core with internally under cut and externally grooved and under cut, thickened, nail headed rim and oblique sides.

3. Fragment of a vase of coarse fabric gritty micaceous grey ware, treated with brown slip, showing out turned thickened, flanged rim and oblique shoulder.

4. Fragment of a pear shaped jar of medium fabric red ware with externally grooved, beaded out turned rim and oblique shoulder.
5. Fragment of a storage vase of coarse fabric gritty micaceous red ware showing unoxidized smoky core with internally grooved and externally undercut, flared out, horizontally projected-faceted rim, externally multi grooved short concave neck and oblique sides.

6. Fragment of a vase of coarse fabric red ware with internally grooved, round thickened rim and oblique sides.

7. Fragment of a bowl of medium fabric red ware with horizontally elliptical rim and externally grooved oblique sides showing corrugated profile.

8. Fragment of a large storage jar of coarse fabric micaceous red ware with externally horizontally pointed thickened rim and oblique sides.


10. Fragment of a handi of medium fabric red ware, externally treated with mica mix red slip, showing externally under cut horizontally drooping rim, oblique sides with ridged exterior, with corrugated profile and carinated sagger base.

11. Fragment of a large storage vase of coarse fabric red ware, showing an unoxidized grey core with externally under cut and internally grooved, horizontally pointed thickened rim and concave neck.

12. Fragment of a vase of coarse fabric red ware, externally treated with mica mix red slip showing flared out externally grooved thickened rim, beaded concave neck with corresponding groove on interior and oblique sides.

13. Fragment of a vase of medium fabric red ware, externally treated with mica mix red slip showing internally carinated, externally under cut, flared out drooping rim marked by grooves on edge, externally grooved oblique shoulders and incurved sides.

14. Fragment of a handi of coarse fabric red ware with black core and externally treated with red slip showing horizontally flared out under cut rim with carinated exterior, externally grooved oblique shoulders and incurved base.

15. Fragment of a basin of coarse fabric red ware with externally ridged, thickened vertical rim showing grooved interior and incurved sides.

16. Fragment of a vase of medium fabric red ware with flared out, internally carinated and externally undercut drooping rim, short concave neck, externally multi grooved shoulder showing globular body.

17. Fragment of a shallow bowl of medium fabric red ware externally treated with mica mix red slip, unoxidized smoky core, showing externally obliquely chamfered, sharp edged rim and grooved incurved sides.

18. Fragment of a shallow handi of ill fired coarse fabric micaceous red ware showing grey core with flared out thickened, internally grooved rim, externally grooved oblique sides and sagger base showing carination at the base.

19. Fragment of a vase of coarse fabric red ware with externally and internally grooved flat and short collared rim and globular body.

20. Fragment of a basin of coarse fabric micaceous red ware with externally
Fig. 9.13: Red Polished Ware, Period-V
grooved collared rim and oblique sides showing carinated profile.

21. Variant of No. 9 of coarse fabric dull red ware showing unoxidized smoky core with short featureless vertical rim, horizontally flared out neck and externally grooved oblique sides.

22. Fragment of a large vase of coarse fabric red ware treated with red slip showing flared out, externally under cut beaded rim and oblique sides.

23. Fragment of a deep bowl of medium fabric red ware with internally grooved flared out thickened rim, and externally grooved incurved sides.

(ii) RED POLISHED WARE

The red polished ware reported at the site is of fine lavigated clay with an evenly fired smooth surface, varying in colour lacquer red to dull brown, reminiscent of Roman ‘Samian’ ware¹ and other red wares of eastern Mediterranean affinity.

The red polished ware came to be recognised as one of the most important ceramic industries of the early Historic period and christened as such after the excavation at Amreli. It occurs in quantities and in a few distinct forms invariably from the Saka-Satavahana horizons of western India and south-central Deccan. Besides Adam, red polished ware has been reported from over forty sites, including Amra, Braoch, Devnimori, Dhalwa, Dwarka, Jokha, Karwan, Lakhabawal, Nagara, Prabhas-Patna, Rojdi, Somnath, Shamlaji, Timbarva and Vadnagar in Gujarati-Saurashtra, and Arni, Bhokardan, Junnar, Kanheri, Nevasa, Paunar, Pauni, Prakash, Ter and Paithan in Maharashtra. Stray finds of this ware have been reported at other sites like Besnagar, Eran, Maheshwar and Tripuri in Madhya Pradesh and Antichak in Bihar. The Andhra-Karnataka sites associated with this ware are Keersargutta, Kotilinga, Peddumarurru, Peddabankur, Satankota and Vadgaon Madhavpur.

Illustrated below are examples of some of the red polished ware along with other red wares.

(Fig. 9.13)

1. A ring footed cup of red polished ware of fine fabric showing slightly out turned featureless rim, externally grooved with S curved profile².

2. Fragment of a sprinkler of fine fabric red polished ware with long concave neck marked by conical shaped nozzle at top and globular body. The interior shows unoxidized smoky core and luted marks.

3. Fragment of a narrow necked water vessel of fine fabric red polished ware with obliquely chamfered, featureless rim and concave sides provided with concealed air-channel.

4. Fragment of a vase of coarse fabric, red ware with nozzle like rim and concave neck, both separated by a flange and followed by grooved oblique shoulder.

2. A somewhat similar type of cup (pyala) has been reported in the famous Brahmapur hoard, see Karl Khandalavala, Brahmapur, A Consideration of the Metal Objects found in the Kundangar Hoard, Lolit Kala 7, p. 69, pl. XXII, fig. 39-40. It is recognised as ‘calathicus’, a pot of Graeco-Roman origin, see R.D. Puma, The Roman Bronzes from Kolhapur, RAIST, p. 95, fig. 5.21-22, also see the base of a relief from Nagarjuna-Konda, refer A.H. Longhurst, The Buddhist Antiquities of Nagarjuna-Konda, MASI 54, 1938, pl. XXXIVa; Khandalavala, op. cit., fig. 59.
5. Fragment of a vase of medium fabric dull red ware with funnel shaped, externally grooved long neck showing externally chamfered, flared out channelled rim.

6. Fragment of a vase of fine fabric red polished ware with sloppy nail headed rim grooved externally and internally and concave neck.

7. A type of sprinkler (kundika) without a spout but with long concave neck and featureless rim with plain surface, of fine fabric red polished ware with convex sides and flat base.

8. Fragment of a pot of fine fabric red polished ware with internally grooved sloppy out curved rim, long concave neck and externally grooved shoulder with a perforation for air passage.


10. Fragment of a pot of medium fabric red ware, showing unoxidized grey core with externally sloppy, edged rim, short concave neck and globular body, decorated on shoulder with series of incised triangular notches.

11. Fragment of a vase of coarse fabric red ware with horizontally flared, under cut rim, funnel shaped neck and oblique shoulder externally grooved at neck junction.

12. Fragment of a miniature lota of fine fabric red polished ware with outturned rim, oblique sides and saggar base showing unoxidized smoky interior.

13. Fragment of a pot of medium fabric dull red ware, externally treated with brown slip showing internally grooved and externally under cut drooping rim, short concave neck and globular body decorated around neck with a row of short triangular notches followed by series of conical impressions in two rows.

14. Fragment of a basin type bowl of fine fabric red polished ware with everted rim flat top, short concave neck and convex sides.


16. Fragment of a vase of medium fabric red ware, externally treated with mica mix red slip with internally grooved and externally undercut dropping rim, oblique sided neck and out curved shoulder bearing two rows of triangular incisions.

17. Fragment of a bowl of medium fabric red ware with out turned short rim, oblique sides and saggar base showing carinated profile.

18. Fragment of a goblet shaped vessel with button shaped stand of fine fabric red ware showing unoxidized smoky core treated with red slip on both surfaces.


2. For further details see fig. 9.29 of this report.

3. The shape of button based goblet is reminiscent to the one found in the Mature Harappan context. Finding it in early Historical context is a rare phenomenon, however, there are a few examples of globular cups with button base reported from Kanchipuram, see K.V. Raman, Further Evidence of Roman Trade from Coastal Sites in Tamil Nadu,
19. Fragment of a vase of medium fabric red ware with concave neck, beaded rim and globular profile.

20. A variant of No. 4 with prominent ledged neck and elongated nozzle of coarse fabric red ware externally treated with red slip.


22. Fragment of a saucer shaped lid of medium fabric red ware, treated with red slip with oblique sides and featureless rim showing central knob fashioned like a miniature pot with wavy mouth.

23. Fragment of a bowl of medium fabric red ware with externally collared and internally grooved everted rim, diminishing sides and flat base.

24. Fragment showing neck portion of a vase of coarse fabric red ware with small vertical featureless rim marked by horizontal beading and concave sides.

25. Fragment of a handi of medium fabric red ware treated with red slip showing unoxidized smoky core with out turned rim, short concave neck and convex sides.

26. Fragment of a dish of fine fabric red polished ware showing unoxidized smoky core with flared under cut rim, internally grooved with corresponding external ridge and incurved sides terminating into sagger base.

27. Fragment of a miniature handi of medium fabric red ware with under cut beaded rim, short neck with a ridge and convex sides.

28. Fragment of a miniature pot of medium fabric dull red ware with almost vertical featureless rim and convex sides.

29. Fragment of a bowl of medium fabric red ware with externally beaded under cut rim and incurved sides.

30. Fragment of a basin of fine fabric red ware, externally treated with red slip showing flared out featureless rim short carinated neck, vertical sides and sagger base.

31. Fragment of a handi of fine fabric red polished ware with flared out rim short concave neck and convex sides marked by a band of three grooves on shoulder.

(Fig. 9.14)

Illustrated here are miniature vessels. Some of these have either served as ritualistic vessels while a few as measuring pots and crucibles of goldsmiths.


2. Miniature pot of medium fabric red ware treated with red slip, with short flared out rim, bicone sides showing carinated profile and pedestal base.

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Fig. 9.14: Miniature vessels, red ware, Period-V

5. Fragment of a miniature vase of coarse fabric red ware, treated with red slip, showing splayed out rim, convex sides and flat circular base.

6. Miniature pot of fine fabric micaceous dull red ware, treated with red slip showing beaded, out turned rim, oblique shoulder, grooved carinated sides and flat circular base.

7. Miniature vase of fine fabric dull red ware treated with red slip, showing flared out, externally pointed and internally grooved rim, concave neck, distinguished by a groove over shoulder, bicone sides and flat circular base.


11. Miniature vase of coarse fabric red ware showing partly outturned externally chamfered rim, short concave neck and convex sides with flat circular pedestal base.

12. Miniature pot of fine fabric red ware, treated with mica mix red slip, with slightly outturned featureless rim, externally and internally grooved parallel sided neck and globular body terminating into flat base.

13. Variant of No. 4 showing out turned beaded rim and thick section.

14. Variant of No. 1 and 3 showing internally grooved neck and partly corrugated interior.

15. Miniature pot of coarse fabric red ware with boarded rim showing sagger base and convex sides.

16. Variant of No. 3 of fine fabric micaceous red ware treated with red slip showing everted rim, globular body and flat circular base.


18. Variant of No. 11 showing short bicone sides and partly outturned extended vertical featureless rim, coarse fabric red ware.

19. Miniature pot of fine fabric, black slipped black ware with flared out, externally drooping and internally grooved rim, concave neck distinguished by groove on both surfaces and globular body terminating in to flat circular base.


24. Miniature cup of coarse fabric red ware with almost vertical featureless rim, oblique sides and flat circular base.

25. Fragment of a miniature pot of coarse fabric black ware with chamfered rim, convex sides and button base.

26. Miniature vase of coarse fabric red ware with externally chamfered rim, constricted neck, oblique shoulders and corrugated body with end portion obliquely terminating to flat circular base.


28. Variant of No. 27, with featureless rim externally oblique cut, roughly horizontally projected sides and flat circular base.

29. Miniature cup of coarse fabric red ware with everted rim showing flat surface, almost vertical sides forming a ridge and terminating into flat circular base.


31. Fragment of a miniature vase of coarse fabric red ware with chamfered rim, convex sides and flat circular base.

32. Miniature vase of coarse fabric dull red ware, with externally obliquely cut featureless rim, bicone sides and flat circular base.

33. Fragment of earthen lamp of coarse fabric red ware, with externally obliquely cut featureless rim and drooping sides terminating into flat circular base.

34. Miniature tumbler of coarse fabric red ware with externally obliquely cut rim, concave sides forming a ridge below and terminating into flat circular base.

35. Miniature bowl of coarse fabric red ware treated with red slip, with nail headed rim showing flanged profile and flat circular base.

36. Miniature bowl of coarse fabric red ware with externally grooved everted rim, incurved sides, terminating into sagger base.

37. Miniature cup, of coarse fabric red ware marked by flared mouth and concave sides with flat circular base.

38. Earthen lamp of coarse fabric red ware with short vertical featureless rim and flanged sides with flat circular base.


40. Miniature bowl of coarse fabric red ware with vertical featureless rim, incurved sides and flat circular base.

41. Miniature jar of medium fabric red ware with everted rim, concave neck and convex sides, hand made.

42. Miniature lid cum bowl of medium fabric red ware treated with red slip with flat featureless rim externally grooved neck, flanged waist and dropping sides terminating into sagger base.
(iii) DECORATED POTTERY

(a) Introduction

Though the fragments of decorated pottery start occurring in a limited way from the preceding period IV, its qualitative and quantitative impact is felt in period V. The decorative elements are of artistic merit. A few of these wares have travelled a long distance while some seemingly designed and manufactured locally.

The sudden rise in the occurrence of decorated pottery from this horizon may be attributed to the flourishing extra territorial trade activity on the trans-Vindhyān trade route. The strategic location and the antiquarian richness of the site corroborate the role the site had played during the Satavahana times.

The important ceramic shapes of decorative variety includes vases with thick out-turned rim globular body and long concave neck, vases with oblique shoulders and straight sides, vases with flared out rim with vertical neck and convex sides, vases with squarish bicone sides, basins with nail headed rim and externally chamfered and under cut rim and curved sides, storage jars with thick nail headed rim, bowls with featureless thin oblique sides with string cut base, handle portions and cup shapes.

The decorative design elements are largely native in character. Wide range of wares and shapes has been subjected to decorations. On technological ground, the decorated wares can broadly be grouped into following categories (a) stamped, (b) incised, (c) applique, (d) cored and (e) perforated and (f) cut wares.

Stamped Decoration:

The stamped or embossed variety predominantly out number other categories of decorated pottery. It represents a gamut of design elements comprising geometric, floral and bird motif. A significant amount of decorative symbols on the pots are of religious nature, perhaps indicating some kind of ritualistic purpose. Important types in geometric variety include series of triangle, perfect converging lines, rows of conical, latticed squares, ribbed lines, and diamond patterns, while in floral variety noted are series of intricate petal motifs, flower medallions, and rosette patterns. The faunal motifs are represented by rows of winged birds and fishes. Among the auspicious category fall signs of the triratna of varying forms from simple three pronged type to complex multi pronged variety with pedestal base bearing swastika or miniature triratna symbols. The purnakumbha motif also falls in this category.

Incised Decoration:

The incised variety of decoration comprises of triangular notches, group of horizontal lines, group of circular incisions, group of wavy lines and suspended triangles with hatching, series of semi circular strokes and floral designs. The decorations are mostly confined to vases, storage jars and bowls.

Appliqué Decoration:

The types noticed in appliqué variety of decorations comprises series of roundels within single or in multiple rows, followed by series of ovalish impressions panelled by wavy lines, floral and animal motifs and a unique representation of Gajalakshmi on the outer surface of fragmentary storage jar (Pl. 6.19). These decorative patterns were much evolved from its preceding period and were confined to shapes like large vases, storage jars and terracotta rings. Representations of elephant and foliage motifs start occurring from Period IV (Pl. 9.2) which further evolve in Period V (Pl. 6.45A).
Fig. 9.15: Stamped decoration: Tri-ratna symbol, Period-V
Corded Decoration:

Under this category the designs have been obtained by pressing string or rope made from several twisted strands during the latter hard stage, against the pot. The design elements of cord impressions comprise single loop of Brahmi letter 'ma' type, multi loops, geometric pattern of series of converging and horizontal lines, rows of suspended and opposite semi circles and multi petal motifs. The shapes on which these signs have been noted include vase, jar and tumbler of medium to coarse fabric.

Perforated Vessels: (Fig. 9.35)

Examples of perforated vessels start figuring in a limited way from sub-period III B. Its percentage increases in period V. The diameter of the perforation made at the pre firing stage is more than those pierced at post firing stage. Some of these pots perhaps served as strainers or colanders while a few standard pots with open mouth perforated above shoulder may have utilised like an incense brazier or for some ceremonial purpose.

Cut Ware: (Pl. 9.4; Fig. 9.33)

Fragments of cut ware pots have come to light in meagre quantity. The triangular incisions appear to have been cut out with a knife during the leather hard condition. After the cutting no efforts seems to have made to smoothen the inner edges. It is believed that the flat pieces of cut ware were used as window gratings while others served as jar stand or as vessels for keeping fruits.

(b) Stamped Decoration: Triratna Symbol

The triratna symbol has generally been seen embossed over the shoulders of vases of red ware of coarse to fine fabric. The delineation of triratna symbol develops from simple three pronged form to multi pronged stylised designs. Some of the fragments show more than one triratna signs indicating embossing of the symbols at regular intervals over the shoulder. Some kind of seal matrices have been used in obtaining the motifs. There have been noticed as many as thirty-eight variants in the triratna symbol.

Vessels bearing the triratna symbols have generally been used in performing rituals. Examples of triratna motif occurring in combination with other auspicious devices have also been a part of ritualistic purport and have been described separately in the following pages.

(Fig. 9.15)

1. Fragment of a vase of coarse fabric red ware, treated with red slip, decoration occurs over shoulder portion showing a stylised triratna symbol resting over terraced platform with diamond tipped central prong flanked by three curved arrow tipped arms on either side, swastika symbols are seen attached to either side of the hollow platform. The same pattern is repeated at an interval of 5.5 cm forming a row.

2. Variant of No. 1 the triratna symbol resting over a terraced platform with a narrow tipped central arm combined with couple of curved arrow tipped arms on either side of the central prong, swastika symbols are seen on either side attached to the base of pedestal.

3. Fragment of a vase of coarse fabric mica mix dull red slipped ware, decorated on shoulder portion stamped with a stylised triratna symbol of which upper half resembles with buckranian motif or horned deity of the Harappan affinity; followed by a incurved arms on either side of the
central prong affixed to a hollow triangular stepped platform.

4. Fragment of a storage jar of coarse fabric mica mix red slipped ware, decorated with partially overlapped couple of hollow *triratna* symbols reminiscent of triskelion motif, resting over a globular shaft with a pedestal base.

5. Fragment of a vase of coarse fabric dull red ware treated with red slip, decorated with *triratna* symbol resting over an oblong serrated base showing a vertical central prong with a diamond-shaped tip bedecked with three circular dots, supporting incurved arms on either side show arrow tipped ends.

6. Fragment of a vase of medium fabric red ware showing unoxidized smoky interior, externally decorated with stylised *triratna* resting over stepped triangular base from which emerges a vertical central prong, supported on either side by an incurved arms tip broken, followed by *swastika* tipped arms emerging from the central prong, on either side of stepped pyramidal pedestal are seen miniature *triratnas*.

7. Fragment of a vase of medium fabric, mica mix red slipped red ware, decorated with *triratna* symbol similar to Type 1.

8. Fragment of a vase of medium fabric red ware treated with fine mica mix red slip and decorated with stylised *triratna* symbol, its basal portion missing, however its central stem atops four looped decoration supporting a floral motif and the adjoining incurved arms tipped with fleur-de-lis motif.

9. Fragment of a vase of red ware decorated with *triratna* symbol similar to Type 3 with tip of central prong and basal portion of pedestal missing.

10. Fragment of a vase of fine fabric red ware, treated with bright slip decorated with *triratna* symbol depicting complex serrated platform and arrow headed left lower most prong.

11. Fragment of a vase of medium fabric red slipped dull red ware decorated with *triratna* symbol resting over a serrated based stepped triangular platform showing swastika symbol on either side, may be a variant of Type 1.

12. Fragment of a vase of coarse fabric mica mix dull red ware decorated with *triratna* symbol similar to Type 3 and 9.

13. Fragment of a vase of medium fabric red ware decorated with stamped motif of *triratna* symbol of which lower portion is missing, however its central prong terminates into a *trishula* with additional arrow projection on either side, and supporting incurved arms terminate into arrow head.

14. Fragment of a vase of red ware showing couple of *triratna* symbols placed side by side in a row, of which the central tip is pointed while its supporting incurved arms terminates into arrow head.

(Fig. 9.16)

15. Fragment of a vase of medium fabric red ware treated with red slip, decorated with *triratna* symbol resting over a stepped platform with sides showing *swastika* device. The central

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1. Comparable *triratna* symbols can be seen on the *toranas* at Sanchi stupa; see Devala Mitra, *Sanchi*, p. 21, pl. III. The exquisitely decorated *triratna* symbolises the trinity of Buddhism- *Buddha*, *Dharma* and *Sangha*. 

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Fig. 9.16: Stamped decoration: *Triratna* symbol, Period-V
prong is marked by short conical pointed tip while side prongs are tipped with fleur-de-lis motif.

16. Fragment of a vase of coarse fabric red ware, decorated with *triratna* symbol showing short pointed central prong and incurved side prongs marked by arrow tip ends and thin oblique lines.

17. Fragment of a vase of medium fabric red ware, decorated with *triratna* symbol showing vertical central prong followed by loop projections and supported by side prongs two each on either side, all are marked by arrow tip ends.

18. Fragment of a vase of medium fabric red ware, decorated with *triratna* symbol showing portion of arrow headed central prong, similar incurved side prong but with the applique lines and a beaked projection in between while part of right lower prong is seen with arrow tip end.

19. Fragment of a vase of coarse fabric dull red ware, decorated with *triratna* symbol showing portion of arrow headed central prong and a pair of left side prongs with arrow tip ends followed by suspended beaked projection on either side.

20. Fragment of a vase of coarse fabric red ware, decorated with *triratna* symbol showing portion of long tapering sided central prong and a pair of left side prongs with arrow tip ends followed by suspended beaked projection on either side.

21. Fragment of a vase of medium fabric ill fired red ware, decorated with *triratna* symbol showing vertical central prong with tapering sides and pointed tip, supported by arrow tip end side prongs on either side, a tiny spire projection seen below the side prongs.

22. Fragment of a vase of medium fabric red slipped red ware showing base portion of *triratna* symbol resting over a triangular platform, marked by a flowing ribbon with arrow tip end on either side.

23. Fragment of a vase of coarse fabric mica mix dull red ware, decorated with *triratna* symbol showing arrow headed central prong with an applique diamond below, encircled by arrow tipped side prongs squarely and further supported by arrow tip end side prongs from either side. A variant of Type 19.

24. Fragment of a vase of ill fired dull red ware, decorated with *triratna* symbol resting over a stepped triangular hollow pedestal showing three simple prongs with arrow tip ends and loops in between.

25. Fragment of a vase of medium fabric mica mix red slipped red ware, with the *triratna* showing elongated central prong supported by arrow tip end incurved side prongs followed by a tiny conical projection on either side and part of pedestal damaged. A variant of Type 21.

26. Fragment of a vase of medium fabric red slipped red ware, decorated with twin *triratna* symbols resting over a conical shaped pedestal marked by corrugated base, showing central prong tipped with fleur-de-lis motif and supported by arrow tip end side prongs and petal shaped ribbons tied to central part of the stem.

27. Fragment of a vase of coarse fabric dull red ware, decorated with *triratna* symbol showing twisted central prong while the side prongs are tipped with fleur-de-lis motif containing embossed
Fig. 9.17: Stamped decoration: *Triratna* symbol, Period-V
dot similar dot is also seen below the central prong.

28. Fragment of a vase of coarse fabric, well slipped red ware, decorated with triratna symbol showing conical central prong marked by an applique oval shape in the centre and tipped with marigold petal like motif. Whereas the left side prong is tipped with arrowhead followed by horizontally projected semi curved ribbon and a part of swastika symbol.

(Fig. 9.17)

29. Fragment of a vase of medium fabric ill fired dull red ware, decorated with a row of incised triangles around neck and triratna symbol showing pointed vertical central prong surrounded by arrow tip end side prongs two each on either side.

30. Fragment of a vase of coarse fabric red ware, decorated with squarish triratna symbol showing oval shaped central prong marked by diamond cut followed on either side by fleur-de-lis motif and further supported by incurved side prongs with arrow tip ends.

31. Fragment of a vase of medium fabric, mica mixed, red slipped ware, decorated with triratna symbol resting over an oblong serrated pedestal with conical shaped central prong and arrow tipped side prongs.

32. Fragment of a vase of medium fabric red slipped red ware, decorated with a couple of triratna symbols occurring alternately as band around shoulders, showing biconvex central prong supported on either side by arrow tipped side prongs one each on either side.

33. Fragment of a vase of medium fabric ill fired dull red ware, decorated with triratna symbol showing arrow tipped central prong further delineated as ankush, below its base oozes two incurved arrow headed side prongs, two each on either side.

34. Fragment of a vase of medium fabric mica mix red slipped red ware, portion of neck rouletted with two rows of incised triangles, below the neck by a band of equally spaced four triratna symbols embossed over the shoulder, showing dagger shaped central prong franked by arrow tipped incurved prongs from either side while inverted drooping curves further shaped encircle the upper delineation by incurved arrow tipped side prongs from either side.

35. Fragment of a vase of medium fabric dull red ware, showing a medallion bearing triratna symbol resting over a convex shaped pedestal, two pointed central prongs followed by a spiral type side a prongs one each on either side and another set of triangular headed prongs one each on either side all within a serrated circle.

36. Fragment of a vase of medium fabric red slipped red ware, decorated with a couple of triratna symbols resting over a short oblong pedestal marked by short conical central prong and a central dot at the waist with flanged profile, left side prong is arrow tipped while right terminates into fleur-de-lis motif.

37. Fragment of a vase of medium fabric red slipped red ware, decorated with intricate triratna symbol resting over stepped pedestal attached with swastika symbols. The crowned central is flanked by incurved arrow tipped prongs with an attachment of drooping buds on either side, externally.

38. Fragment of a storage vase of coarse fabric red slipped red ware, showing
Pl. 9.3: Segmented stamped decoration of floral and faunal motifs, Period-V
highly ornate two *triratna* symbols resembling some floral motif. It consists of a set of four *triratna* symbols placed back to back against a diamond shaped central hub. Further each *triratna* is separated by spikes and its two incurved side prongs are tipped with fleur-de-lis motifs while central prong is treated like a leafy flower.

(c) Megarian Ware

Concomitant with red polished wares, are the decorated wares, betraying the ‘Megarian’ type pottery reminiscent to Mediterranean origin. Such decorations have been extensively noted on the red polished ware and black wares, with a few exceptions occurring on the grey and kaolin wares as well. These are local imitations of the Graeco-Roman relief decoration made by pressing clay into a mould which had itself been decorated by means of separate stamps. Typical Mediterranean examples commonly have a whorl of gadroons or leaf fronds originating from the base, supplemented by other natural and figural representations. Broadly speaking the mode of decoration on most of the decorated vessels at Adam is similar, although some variants break the monotony of the design elements. These variants may broadly be grouped as (i) exterior and (ii) interior decorations. In both the categories, the decorative elements either cover the entire surface of the vessel or part of it and the ornamental motifs occur in segments, separated by one or more circular bands; in some cases the segments are further compartmentalised by vertical bands. The examples of such pottery types have been illustrated in fig. 9.18, fig. 9.23 – 1 & 4, fig. 9.26 – 3, 6 & 11 and fig. 9.27 – 2, 4, 6, 9 & 10. Such examples have also been reported from Ter² and Taxila³.

Out of nine specimens described below, the one described at Sl. No. 1 is important as almost similar specimens of stamped medallions between two bands have been reported from Arikamedu⁴.

(Fig. 9.18)

1. Fragment of a bowl of fine fabric red ware having flat base and tapering profile and is ornamented on the interior sides with a row of pegion like mythical birds stamped out of circular die, between two bands of multiple incised grooves⁵. Birds are seen holding strings of pearls.

2. Fragment of globular vessel of slipped brown ware of fine fabric. Thin sectioned sherd bears stamped decoration around its body in these rows, upper one is of floral medallions, each containing eight petals intercepted by smaller ones, followed by a series of *triratna* symbols each mounted over *chakra* resting over pedestal and the third row is embossed with stylised cranes moving to left with stretched out wings in unconventional manner (Pl. 9.3).

3. Fragment of a globular vase of red ware showing unoxidized smoky core marked by thin section, stamped with three rows of medallions bearing stylised birds moving to left in upper and lower segments, the middle segment shows a series of *triratna* symbols each mounted over a *chakra* resting over pedestal and lower left

Fig. 9.18: Stamped decoration: floral and faunal motifs Period-V
couple of fish motifs delineated mouth to mouth in vertical posture.

4. Fragment of a vase of fine fabric red ware with unoxidized black interior, retains couple of rows of stamped medallions bearing stylised birds in upper segment while lower bears floral motif.

5. Fragment of a vase of fine fabric red ware with unoxidized black interior, retains couple of rows of stamped medallions bearing stylised birds in upper segment while lower bears floral motif.

6. Fragment of a globular vase of medium fabric brown ware, bears couple of rows of stamped medallions showing floral motifs each consisting of ten large petals intercepted by smaller ones, while lower segment shows stylised swan like birds moving to left with stretched out wings.

7. Fragment of a vase of medium fabric black ware retains stamped decorations in three segments showing diverse motifs, upper one bears Srivatsa device, followed by stylised birds to right and floral motif.

8. Fragment of a vase of fine fabric black slipped grey ware retains couple of rows of stamped medallions showing row of floral motif followed by a series of birds turned to right, crescent supporting and orb is seen on its back.

9. Fragment of a vase of medium fabric red ware retains couple of rows of stamped medallions showing series of right turned crane like bird followed by rosette like floral motif.

(Fig. 9.19)

1. Fragment of a vase of coarse fabric mica mix dull red ware with flared out horizontally pointed rim, concave neck and convex sides, shoulder portion depicts a series of rosette medallions over the shoulder portion each having nine petals around carpel and traingular notches in between, encompassed by a serrated circle.

2. Fragment of a storage vase of coarse fabric red ware, externally treated with an appliquéd band impressed alternatively with roundels, below it occurs stamped medallion of rosette motif showing eight petals intercepted by ovalish dots around circular carpel, encompassed by serrated circle.

3. Fragment of a thick hand made storage jar of coarse fabric chocolate slipped red ware with nail headed flat rim-surface stamped at either edge with opposite triangles at regular intervals and on its exterior occurs a row of floral motif alternately stamped and incised, each having twelve petals around encircled carpel.

4. Fragment of a basin of coarse fabric red ware with out turned, slopy, corrugated rim and convex sides, decorated with an incised horizontal rows of opposite oblique notches separated by a grooved band.

5. Fragment of a basin of coarse fabric red ware treated with red slip internally grooved and externally beaded nail headed rim, stamped exterior below the rim shows a series of floral motif to each having nine petals emerging from carpel.

6. Fragment of a thick handmade storage jar of coarse fabric red ware with nail headed flat rim surface embossed with a rosette and a whorl type of medallions, stamped exterior below the rim shows a series of floral medallions.

7. Fragment of a thick hand made storage jar of coarse fabric red ware
Fig. 9.19: Stamped decoration: floral motifs, Period-V
with internally cut, flat top, nail headed rim, externally stamped with medallions, each consisting alternately rosette and suspended floral motif.

8. Fragment of a thick hand made storage jar of coarse fabric red ware, with nail-headed flat rim, externally decorated with a row of rosette medallions each having multi rows of spire petals emerging out of carpel.

9. Fragment of a vase of coarse fabric chocolate slipped red ware, externally decorated with a row of rosette medallions, each having multi rows of spire petals emerging out of carpel.

(Fig. 9.20)

1. Fragment of a vase of black ware, stamped decoration around neck and on shoulder portions show two rows of serrated lines, followed by series of triratna symbol stamped upside down at frequent intervals, each mounted over chakra resting over pedestal.

2. Fragment of a vessel of red ware with oblique shoulder bearing perforation and decorated with incised series of dotted notches, followed by a series of slanting strokes encircled by a row of converging lines forming suspended conical shapes and bordered by two horizontal lines followed by another horizontal line.

3. Fragment of a vase of fine fabric red ware with squat bicone sides showing unoxidized grey interior, an appliqué band on carination decorated with series of collared medallions bedecked with floral motif.

4. Fragment of a vase of mica mix red slipped ware with externally grooved concave neck and globular body. Incised decoration over shoulders shows two rows of notched triangles followed by a row of converging lines.

5. Fragment of a vase of fine fabric red ware with squat bicone sides decorated on the carinated portion with stamped design showing a row of semi circular flower medallions each showing four petals and smaller ones in between.

6. Fragment of a vase of fine fabric red ware, externally treated with mica mix red slip black and red ware with squat bicone sides, the carinated exterior is decorated with stamped design showing series of flower medallions each containing twelve petals intercepted by smaller ones in between.

7. Fragment of a vase of medium fabric black ware treated with mica mix self slip, showing multi grooves over shoulder, decorated with a horizontal line and small oblique stokes connected to it at frequent intervals and a circular flower medallions.

8. Fragment of a sprinkler of fine fabric red ware, externally treated with red slip and decorated over shoulder around neck with two rows of triangular notches.

9. Fragment of a vase of red ware decorated with two rows of triangular notches around neck and a stamped flower medallions with eight petals.

(Fig. 9.21)

1. Fragment of a thick hand made storage vase of coarse fabric chocolate slipped ware, neck portion is decorated with a row of triangular notches while shoulder by a row of suspended leaves showing long midrib and ten veins each on either side of it.
Fig. 9.20: Stamped and incised motifs, Period-V
Excavations at Adam

Fig. 9.21: Stamped floral motifs, Period-V

Fig. 9.22: Decorative motifs at the inner base of bowl, Period-V
2. Fragment of a thick hand made storage vase of gritty micaceous red ware, neck is encircled by an applique band with oblique slashes forming a cord design, shoulder bears a row of leaf motifs occurring at regular intervals showing long midrib and diminishing veins forming long ovalish shape, while its body shows an applique rosette motif in damaged condition.

3. Fragment of a thick hand made storage jar of coarse fabric red ware with nail headed flat rim stamped with triratna motif opening towards mouth of jar, below the shoulder an unaligned row of suspended leaves and lenticular petal like motif occurs alternately.

4. Fragment of a thick hand made storage jar of coarse fabric red ware, decorated with suspended flower motif.

5. Fragment of a thick hand made jar of coarse red slipped red ware, extensively decorated exterior consist of a bunch of suspended flowers, buds, leaves and medallions.

6. Fragment of a hand made storage vase of coarse chocolate slipped red ware, showing applique band, ovalish roundels around neck followed by a stamped motif of suspended leaves arranged in a row.

7. Fragment of a storage vase of gritty micacious red ware with out turned beaded rim and oblique shoulder bearing stamped decoration of a series of triangular notches followed by series of small suspended leaves.

8. Shoulder fragment of a thick hand made storage jar of coarse fabric micacious red ware decorated below the neck with incised row of circles followed by an unaligned row of hollow lenticular petals.

(Fig. 9.22)

1. Fragment of a bowl of coarse fabric red ware with vertical featureless rim, oblique sides and circular base, its inner basal surface is stamped with floral motif.

2. Fragment of a bowl of coarse fabric red ware with oblique sides and circular base, its inner basal surface bears couple of finger impressions.

3. Fragment of a bowl of coarse fabric red ware decorated on its inner basal surface bears a combination of nandipada and triratna symbols.

4. Fragment of a bowl of coarse fabric red ware decorated on its inner basal surface showing radiating floral design with six petals emanating from a small dot like carpel.

5. Fragment of a bowl of coarse fabric red ware decorated on its inner basal surface a stamped design of radiating sunflower with twenty-five curved petals slashed and emerging from central carpel.

6. Fragment of a bowl of coarse fabric red ware decorated with rosette design on its inner basal surface.

(Fig. 9.23)

1. Fragment of a water vessel of fine fabric red ware with flared rim, vertical neck and globular body, over the luted shoulder and below occurs a band of drooping petals followed by another band of latticed diamonds.

2. Fragment of a vase of coarse fabric mica slipped red ware, decorated with incised floral design partly damaged,
Fig. 9.23: Decorative motifs, Period-V

Fig. 9.24: Decorative motifs, Period-V
showing multiple petals forming a semi-circle.

3. Fragment of a bowl of coarse fabric dull red ware with everted rim and curved sides decorated with a band of vertical lines followed by series of converging lines.

4. Shoulder fragment of vase of medium fabric red ware, decorated with series of large suspended petals showing curved ends.

5. Fragment of a vase of medium fabric red ware, decorated with cord impression, showing four lines of vertically aligned three suspended floral strings panelled by two decorated verticals on right margin.

6. Fragment of a vase of medium fabric red ware showing ridged neck and curved sides decorated with row of ribbed marks.

7. Fragment of a vase of medium fabric red ware, decorated with horizontally hatched triangle followed by a series of oblique lines and piled horizontal strokes alternately on its right side.

8. Fragment of a vessel of red ware, decorated in two segments separated by couple of horizontal bands in relief, upper segment shows row of suspended triangles filled with rows of horizontally aligned vertical strokes, lower segment shows incomplete floral design.


10. Fragment of a vase of medium fabric dull red ware, decorated with converging lines intersecting each other and forming into rows of obliquely aligned rectangles.

11. Fragment of a vase of coarse fabric dull red ware, decorated with four oblique lines converging with an oblique line in opposite direction forming into a spire followed by groups of four and three oblique lines on its right and left side respectively.

(Fig. 9.24)

1. Fragment of a thick storage basin of coarse fabric red ware with internally under cut, externally grooved, sloppy, thickened rim bearing a row of incised conventionalised Y like device, interconnected.

2. Fragment of a thick hand made storage jar of coarse fabric gritty micacious dull red ware with thickened, externally beaded and internally undercut rim. The surface of rim bears corded circlets and couple of damaged floral motifs small cuts between the two are use marks.

3. Fragment of a large hand made jar of coarse fabric, gritty micacious red ware treated with red slip with faceted rim. Its ridged upper surface bears stamped row of opposite triangles and its immediate exterior repeats it in suspended order.

4. Fragment of a thick hand made coarse fabric chocolate slipped red ware with thickened out-turned rim, exterior bears a row of stamped upright triangles horizontally panelled by chevron bands.

5. Fragment of an internally undercut, flat rim portion of a thick storage jar of coarse fabric red ware, with its upper surface containing three panelled motifs. On its extreme left occurs damaged leaf-like petal followed by four rows of triangular notches creating an impression of water ripples, and to right a damaged squarish frame bears four petal like
projections in each corner, outer edge of the rim shows a band of triangular notches.

6. Fragment of a thick hand made storage jar of coarse fabric red ware with thickened nail headed rim with flat top showing a series of stamped floral medallions at regular flanked by bands of obliquely drawn triangles while its side preserves an incised band of squarish cubicals intersected by oblique lines forming lozenges.

7. Fragment of thick hand made storage jar of red ware showing a variant of Type 4, here the row of triangles are in suspended mode.

8. Fragment of thick storage jar of coarse fabric red ware showing a variant of Type 4, here the row of triangles are in suspended mode.

9. Fragment of a thick hand made storage jar of coarse fabric mica mix red ware, decorated with an appliqué floral medallion.

10. Fragment of a thick hand made storage jar of coarse fabric red ware decorated with an appliqué band bearing series of oblique slashes.

11. Fragment of a thick hand made jar of coarse fabric red ware decorated with ribbed mark showing random wavy line.

12. Fragment of a thick hand made jar of coarse fabric red ware with thickened faceted rim covered with stamped decorations. The facets on either edge bear couple of rows of triangles pointed towards central plain bearing a band of chevrons, while its immediate exterior shows a panel of oblique intersecting lines.

13. Fragment of a thick hand made storage jar of coarse fabric red ware, treated with red slip with thickened under cut rim, corded decoration on outer and upper surface showing rows of *nandipadas*.

14. Fragment of a thick hand made storage jar of coarse fabric red slipped ware, rim portion broken, however applique ridge around shoulder portion bears on all three sides elliptical stamping, each consisting of three rows of pellets numbering between thirteen to seventeen.

(Fig. 9.25)

1. Fragment of a thick storage vase of coarse fabric red ware with beaded, out turned rim, grooved section betrays corrugated profile, however, central ridge possesses a series of dotted incisions.

2. Fragment of a thick storage vase of coarse fabric red ware with thickened under cut rim showing regular notched slashes along the projected top, below the concave neck the oblique shoulder bears thick band of incised latticed diamonds of irregular finish.

3. Fragment of a dish of coarse fabric red ware treated with mica mix red slip with flared out internally grooved rim and oblique sides incised row of a converging line occurs on upper rim surface, externally below it figures an appliqué band of regular notches forming a wavy line.

4. Fragment of a thick, storage vase of coarse fabric micacious red ware with out turned, thickened internally cut and externally under cut straight edged rim and oblique sides, exterior of rim shows two rows of incised grids in relief.
Fig. 9.25: Incised motifs, Period-V

Fig. 9.26: Stamped motifs, Period-V
5. Fragment of a thick storage vase of coarse fabric red ware with flared out elliptical, undercut rim, decorated on exterior of the rim with two rows of curved incisions all along, while the interior bears random slashes in two rows.

6. Fragment of a thick storage vase of coarse fabric red ware with flared thickened internally chamfered and externally undercut rim and convex sides. The exterior of rim bears a row of pierced notches in the centre flanked by rows of chevrons occurring on either end.

7. Fragment of a thick storage vase of coarse fabric red ware with internally thickened, and externally grooved and convex top rim, around neck runs a thick band showing series of uniform oblique slashes betraying corded design.

8. Fragment of a thick storage vase of coarse fabric red ware with flared, thickened, internally grooved rim showing terraced upper surface, edge of rim bears a series of petal like formation in slanting order.

9. Fragment of a basin of medium fabric mica mix red slipped red ware, with out turned under cut rim showing corrugated profile. Decorated across the rim with horizontal bands and series of incisions along the outer edge and a rope design.

10. Fragment of a rim portion of thick storage pot gritty micacious red ware with flared thickened, undercut oblique rim showing oblique sides, decorated on the exterior of rim with series of uniformly pierced ovalish depressions.

11. Fragment of a basin of coarse fabric red slipped ware with externally chamfered under cut rim and convex sides, decorated upper surface of rim shows a row of stamped triangular notches.

(Fig. 9.26)

1. Fragment of a basin of medium fabric red ware with everted rim, marginal tapering sides and incurved base showing carinated ridge. The body is externally pierced with blind holes in alignment, corresponding bulges seen internally. The rim bears series of applique roundels while the ridge of base bear oblique slashes.

2. Fragment of a vase of fine fabric red ware, decorated with partially overlapping, medallions of dots and circlets.

3. Fragment of a bowl of medium fabric red ware with flat featureless rim and incurved sides. The stamped interior consists geometric in upper and floral motifs in lower segment. Immediately below the rim occur bands of oblique slashes, latticed diamonds and converging lines forming triangles, alternately containing pellets followed by a full-bloomed floral motif.

4. Fragment of a basin of red ware with flared out collared rim, incurved sides and corrugated interior. On the exterior grid-like intersecting lines bedeck with blind holes pierced at irregular intervals.

5. Fragment of a miniature vase of red ware decorated over body with a series of vertical applique bands embedded with pellets.

6. Fragment of a bowl of medium fabric red ware with oblique sides, decorated in three segments, the top one shows geometric design of latticed squares, ribbed lines and rows of inverted piled arches followed by series of panelled rosette motifs in the centre, each
consisting five triangular shaped petals, and a row of inverted U-turned motif, followed by couple of lines below.

7. Fragment of a vase of red ware, externally decorated with series of pellets stamped in irregular manner.

8. Shoulder portion of a vase of red ware, decorated with applique lines and below it exists stamped rows of verticals consisting series of pellets.


10. Fragment of a vase of red ware, decorated with irregular pellets and a band.

11. Fragment of a bowl of medium fabric red ware, decorated externally in three segments, the upper segment has three horizontal lines intersected by oblique lines, followed by a row of festoon like suspended arches in the middle and series of floral motifs each panelled by a vertical line.

**d) Appliqué Decoration**

The appliqué decorations figured on a variety of pottery types ranging from storage jars, vases, basins, and bowls. Generally the design elements are limited to roundels, single and double horizontal bands.

Apart from these common types of appliqué elements, the site has reported storage jars bearing human (Pl. 6.19) and animal (Pl. 9.2) motifs. In such type of ornamental work the levigated clay is hand modelled to required shape and size and applied to the prepared surface of jar or vase in a leather hard condition. After affixing the appliqué design, the surface is treated with thick slip to strengthen it from chipping or peeling. Apart from strengthening factor, the coat of slip improves the aesthetic quality of modelling, at times showing artistic acumen. The panel of elephant moving to right within the foliage motif seen over the exterior surface of terracotta ring of a storage jar is an outstanding example of modelling1 (Pl. 6.45A).

Describe below is an image in low relief of a standing Gajalakshmi, depicted on a storage jar (Pl. 6.19). It is found in situ from a house complex of period V. The image is shown standing over a lotus of ovalish shape drawn in the centre of the belly portion. Both hands of the image are suspended parallel to the contour of the body, in which the left hand is partially separated from the thigh. The right palm seems to be holding some circular object while the left is apparently displaying the *varada mudra*. She wears closely fitted upper garment and a sari as lower garment. She is adorned with heavy ear ornaments and anklets. Her hairs are centrally parted. On either side of the divinity two full blown lotus flowers strings out from the lotus base are shown. Over this flower, traces of elephant legs are seen suggesting the elephants engaged in performing ablation. Remaining part of the jar is filled with lotus stalks and buds motifs.

(Fig. 9.27)

1. Fragment of a storage jar of coarse fabric red ware, decorated over shoulder portion with a row of applique roundels followed by two rows of triangular notches.

2. Fragment of a bowl of red ware of fine fabric, externally decorated in three segments and separated each by horizontal line. The upper segment is

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1. Such motif of elephant to right on a storage bin has been noticed even today. Farmers believe that the animal motifs on a storage bin protect the grains from evil eye, see Shahidah Ansari, Clay Storage Bins in India: An Ethnoarchaeological Study, ME, XXV (2), 2000, p. 56, fig. 6.
Fig. 9.27: Applique and stomped motifs, Period-V
decorated with converging lines consisting hatched oblique lines followed by a series of obliquely aligned latticed motifs while the lowest shows some converging lines on the right side of the segmented panel, occurs a series of bands/lines of varying thickness.

3. Fragment of a storage jar of coarse fabric red ware, below neck decorated with an applique band of roundels followed by stamped decoration showing alternately a row of ovalish and roundish leaves suspended partially in oblique order.

4. Fragment of a jar of medium fabric red ware with mica slipped interior. The decorated exterior shows leaf motif with a vertical midrib and series of oblique veins containing rows of dots, overlapped by circular floral design.

5. Fragment of a vase of coarse fabric red slipped red ware, decorated with series of ovals with superimposing roundel, succeeded by an applique band of roundels, connected to each other.

6. Fragment of a vase of fine fabric kaolin ware, showing stamped decoration in atleast two segments. The upper segment, damaged partially shows converging lines lower segment shows panelled triratna device, resting over an elaborate four tiered platform with leaf projections on either sides, while the right panel shows four triratnas with a common circular base, but each facing opposite direction. The panels are separated by a band of two vertical lines each containing eight dots.

7. Fragment of a storage jar of coarse fabric red ware. The applique band consists of couple of combined finger impressions.

8. Fragment of a vase of red ware, decorated with a row of applique roundels bearing cloth impression, supplemented on either side by zig zag wavy lines and above it a horizontal line vertically notched at regular intervals.

9. Similar to no. 4, showing more details of leaf and multi-flowers constituting a multi petaled flower, suspended flower and rosette motif.

10. Fragment of a miniature vase of kaolin ware, partly showing decoration of suspended petals forming loops.

11. Fragment of a storage vase of coarse fabric red ware, decorated with an applique horizontal band bearing cord like oblique cuts and above it is seen a series of grid like incised oblique intersecting band panelled by vertical lines.

(e) Corded Decoration

The cord impressed decorative designs are mostly confined to vases and thick storage jars and usually occurs either in a row or at frequent intervals. One such specimen, inadvertently, figures in Fig 9.24 at Sl. No. 13.

Most of these corded motifs are auspicious nature; hence it is believed that the vases bearing these symbols might have served some religious purport. These impressions have been achieved by pressing the formulated design with the help of cord over the treated or untreated surface of the vases or jars. Over the jars, the cords used are relatively of thicker variety than those used on vases. However, the specimen illustrated at Sl. No. 11 shows the use of thin twisted metal wire for achieving the design element. The selected specimens are described below.

(Fig. 9.28)

1. Fragment of a thick, hand made storage jar of coarse fabric red ware, treated with mica mixed red slip,
Fig. 9.28: Corded decoration, Period-V
showing vertically thickened rim with flat top and a bulgy exterior bearing series of opposite arches each consisting three concentric semi circles.

2. Fragment of a vase of medium fabric red ware with externally grooved concave neck and globular body, externally treated with red slip, below the shoulder decorated with a motif forming a couple of loops terminating into a V-like opening above, occurring at regular intervals in staggered alignment.

3. Fragment of a vase of coarse fabric dull red ware, decorated externally with similar motif noted above at no. 2, but here the two composed together.

4. Fragment of a huge hand made storage jar of coarse fabric red ware, treated with red slip showing flat inturned rim with swelling sides, its flat top shows a series of nandipadas while its exterior shows a row of opposite arches each containing of four semicircles in receding order.

5. Fragment of a vase of coarse fabric red ware, decorated on its exterior with a four-looped device forming a tiny enclosure in the centre, reminiscent to the unending knot motif of the Harappan period.

6. Fragment of a vase of coarse fabric red ware, externally decorated with a nandipada motif showing a globular loop below.

7. Fragment of a vase of coarse fabric red ware externally decorated with nandipada motif showing an ovalish loop below.

8. Fragment of a vase of coarse fabric red ware, externally decorated with a nandipada motif showing small ovalish loop below and wide-open left arm above partially curved while right stretched up obliquely.

9. Fragment of a vase of coarse fabric red ware, externally treated with red slip and decorated with a motif comparable to no. 5.

10. Fragment of a thick, hand made storage jar of red slipped red ware, decorated externally, showing four nandipadas arranged back to back in cross order.

11. Lower fragment of a miniature pot of medium fabric dull red ware, decorated in two segments, the lower one shows a band of panelled diamonds while the upper one bears a row of converging line.

12. Fragment of a thick hand made storage jar of coarse fabric red slipped ware, with straight sided flat topped rim externally showing a variant of type-1 but the opposite arches are not showing equal number of semicircles.

(f) Incised Decoration

The examples of incised decoration consisting of triangular notches, group of horizontal lines, group of circular incisions, group of wavy lines and suspended triangles with hatching, series of semi circular strokes have been described while discussing the pottery types on which these patterns have figured.

The most important incised decoration is a floral motif occurring at the base of a bowl. It represents an incised decoration of lotus petals skirted by a wreath of lozenges and concentric bands occurring at the base of a bowl. It
Fig. 9.29: Multi-lipped vases, Period-V
shows similarities with type 6 reported at Arikamedu¹.

(g) Multi-lipped Vase

Apart from the above mentioned decorative designs and shapes, decorations have also been noticed over multi-lipped vases. The multi-lipped medium sized vases of fine to medium fabric bear decorations over neck, shoulder and body, while the smaller one of coarse fabric are plain. Invariably in red ware and occasionally treated with red slip, the multi-lipped vases bear more varieties in linear format than floral. These multi lipped vases have formed part of ritualistic utensils, possibly used in performing ablation. The excavations at Malhar have reported similar type of vessel in in-situ position in the context of foundation laying ceremony indicating ritualistic function of the vessel². A few selected specimens are described below:

(Fig. 9.29)

1. Fragment of a vase of fine fabric polished red ware with sharp projected multi-lipped rim, elongated neck, oblique shoulders and carinated profile. The shoulder bears a band of triangular notches followed by a row of half bloomed suspended flowers and couple of grooved bands while carinated junction bears a series of collared medallions consisting of floral motif, flanked by a row of triangular notches.


4. Fragment of a vase of medium fabric dull red ware, externally treated with mica dust mix dull red slip, showing wide-open multi lipped wavy rim characterised by a slit on its upper surface, externally grooved tapering neck and slanting shoulders marked by incised oblique strokes around it and above it couple of linear band.

5. Vase of coarse fabric red ware showing multi-lipped wavy rim, short concave neck, oblique shoulders and inturned sides with carinated profile.

6. Fragment of a vase of medium fabric red ware, treated with red slip showing internally grooved multi lipped wavy rim, externally multi grooved vertical neck, oblique shoulders and inturned sides with carinated profile, the incised decoration comprises two rows of triangular notches one over the shoulder and other along the carinated portion, panelled by a single horizontal groove at top and bottom respectively.

7. Miniature vase of coarse fabric red ware with multi lipped rim, short concave neck and inturned sides showing carinated profile.


(h) Ware with Handle

In this category falls dishes, pans, basins, etc. having handles on either ends of the rims to hold the utensil. The handles of these utensils bear pre firing decoration. Apparently, the shape and size

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¹. R.E.M. Wheeler, Arikamedu, AI, 2, p. 55, fig. 15-6, pls. XXX-B:1 & XXVIII-A.
Fig. 9.30: Ware with handles, Period-V
suggest their household function. A few selected specimens of pots with handle are described below:

(Fig. 9.30)

1. Fragment of a dish of coarse micaceous red ware with nail headed rim marked by grooved surface, oblique sides and flat base showing obliquely luted semi circular shaped handle with vertically grooved exterior.

2. Fragment of a pan of coarse fabric red ware treated with mica mix red slip, showing nail headed rim with grooved upper surface and interior, incurved sides and obliquely luted semi circular shaped handle with circular section.

3. Fragment of a pan of coarse fabric dull red ware with everted, nail headed rim showing incised roundels on upper surface and incurved sides, with obliquely luted semi circular shaped handle ovalish in section, bearing three rows of concave roundels.

4. Fragment of a dish coarse fabric micaceous red ware with obliquely inturned featureless rim, flat carinated base and long elliptical shaped handle obliquely luted, with circular section.

5. Fragment of a dish of medium fabric red ware, treated with red slip showing flat nail headed rim and incurved sides and horizontally luted flat tung-shaped handle marked by a group of two incised chevrons.

6. Fragment of a handle of coarse fabric micaceous red ware in semi circular shape showing ovalish section.

7. Fragment of a pan of coarse fabric red ware with everted, nail headed rim incurved sides and obliquely luted semi circular shaped handle showing rectangular section.

8. Fragment of a dish of medium fabric dull red ware with nail headed rim grooved upper surface and horizontally luted flat rectangular shaped handle.

9. Fragment of a handle of coarse fabric micaceous red ware in semi circular shape showing semi circular section.

10. Fragment of a basin of coarse fabric micaceous red ware with nail headed rim, grooved interior and upper surface, externally grooved vertical sides, incurved base and vertically luted semi circular handle marked by two rows of incised chevrons separated by a horizontal groove.

11. Fragment of a basin of medium fabric red ware treated with mica mix red slip, showing externally beaded nail headed rim, grooved upper surface, externally grooved incurved sides and obliquely luted semi circular handle showing recessed moulding.

Here are described selected specimens of decorated handles and lugs detached from pots and pans. All the handmade examples illustrated here of red ware with an exception of kaolin described at sl. no.12.

(Fig. 9.31)

1. Fragment of a semi circular shaped handle of coarse fabric red ware, treated with mica mix red slip showing unoxidized smoky core, conical in section and the surface is marked by a central ridge.

2. Fragment of a semi circular handle of medium fabric red ware, treated with black slip, squarish in section.

3. Fragment of a semi circular shaped handle gritty micaceous red slip showing unoxidized grey core marked
Fig. 9.31: Decorated lugs and handles detached from vessels, Period-V
by grooved upper surface, squarish in section with a corrugated axis.

4. Fragment of a semi circular handle of coarse fabric micacious red ware with unoxidized smoky core, upper surface showing grooved line serving as mid-rib to oblique strokes on either side.

5. Fragment of a knob or lug of coarse fabric dull red ware with convex top terminating into pointed projection on either side connected to a cylindrical shaft.

6. Fragment of a handle or medium fabric red ware, treated with mica mix red slip semi circular shape and unoxidized smoky core. The decoration comprises of two grooves separated by a ridge and intervening space filled with rows of triangular notches.

7. Fragment of a handle of medium fabric red ware with semi circular section, decorated with a row of horizontal strokes all along the grooved surface.

8. A variant of No. 5 of medium fabric red ware with an incurved upper surface terminating into drooping ends on either side with a central shaft showing ovalish section.


10. Fragment of a semi circular medium fabric red ware showing unoxidized smoky core with pentagonal section, decorated upper surface shows vertical row of triangular notches.


12. Fragment of a handle of fine fabric kaolin ware showing segmented incised decoration of an improvised triratna symbol, diamond shape space filled with six strokes forming a dissected floral design in two followed by wavy horizontal bands.

13. Fragment of a thick semi circular handle with circular section of medium fabric red ware showing unoxidized smoky core, decorated on upper surface with a row of triangular notches and circle.

14. Fragment of a semi circular handle of coarse fabric micacious red ware showing circular section and decorated with rows of horizontal grooves.

15. Fragment of a semi circular handle of medium fabric dull red ware showing circular section and decorated with series of horizontal notches in segments.

16. Fragment of a handle of coarse fabric micacious red ware showing unoxidized smoky core decorated with series of corded oblique lines.

17. Fragment of a hand made semi circular handle of medium fabric red ware showing unoxidized smoky core marked by the decoration of rows of chevron incisions in three segments.

(i) Spouts

Illustrated here are plain and decorated varieties of spouts. A good number of them are part of sprinklers, while some are classified as channelled spouts. Majority of examples are in red with a few examples in kaolin as well.

(Fig. 9.32)

1. Spout fragment of a sprinkler of fine fabric red ware showing barrel shaped
Fig. 9.32: Plain and decorated spouts, Period-V
spout terminating into beaded mouth with short concave upper surface, convex lower surface with luting mark.

2. Spout fragment of a sprinkler of fine fabric red ware showing spout with wide mouth, collared neck, short concave upper surface convex lower surface with suspended bulbous projection luted to a perforated surface.

3. A variant of Sl. No. 2 of fine fabric kaolin ware, showing relatively thick beaded mouth.

4. Spout fragment of a water pitcher of medium fabric red ware showing large tubular spout marked by an elongated appliqué ledge attached below.

5. A variant of Sl. No. 4 distinguished by an appliqué semi circular ledge attached below the spout.

6. Spout fragment of a water pitcher of medium fabric red ware showing narrow grooved mouth, short concave upper surface and oblique lower surface showing bulbous projection.

7. Spout portion of a fine fabric red ware in tubular shape with narrow channel and a luting mark.

8. Fragment of a water pitcher of fine fabric kaolin ware, treated with red oxide slip showing short spout of oblique sides.

9. Fragment of a shallow bowl of coarse fabric red ware showing narrow channelled spout with marks of luting seen on exterior.

10. Fragment of a water vessel of coarse fabric red ware showing cylindrical shaped spout with unoxidized smoky core, ledge in upper junction.

11. Fragment of a water vessel of coarse fabric dull red ware showing short chamfered pyramidal shaped spout with a narrow channel.


13. Fragment of a water vessel of medium fabric red ware showing tubular shaped spout with tapering sides, ledge in the upper junction.

14. Fragment of a water vessel of coarse fabric mica mix brown slipped ware showing short cylindrical featureless spout with wide opening.

15. Spout fragment of a medium fabric red ware, externally fashioned like makaramukha with wide-open serrated jaws, bulging eyes and hatched diamond snout showing a narrow circular nostril.

16. Fragment of a spout of fine fabric red ware in conical shape with upper portion of a stylised makaramukha bedecked with appliqué decoration.

17. A variant of Sl. No. 14 of medium fabric bright red slipped ware with cylindrical shaped spout showing circular section and marks of luting.

18. Fragment of a basin of coarse fabric red ware externally treated with mica mix red slip showing externally grooved flat rim luted to a channelled spout showing semi circular section, incurved.

(j) Cut Ware

The antiquity of cut ware vessels dates back to the Harappan times. A number of Harappan sites have reported this ware,
Fig. 9.33: Cut ware, Period-V
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Pl. 9.4: Cut ware jar, Period-V

Pl. 9.5: Roulette ware, Period-V
but due to fragmentary nature of the cut ware, reconstruction of the shape still remains speculative. It is believed that flat specimens might have served as window grating, while the curved pieces possibly functioned as jar stands or a few as domical lids.

The legacy of cut ware in the historical period remained conspicuous by its absence. The present site, however, has traced back the Harappan legacy of cut wares in the horizons attributed to the historical period (period V).

A few of the shapes identified are that of a parallel sided jar, deep bowl and finial. The cut out designs obtained with the help of sharp instrument, generally include series of triangular cuts with an exception of inter-woven auspicious signs of the swastikas. A few of these are externally grooved while one bears appliqué buttons and other a decorative band. The illustrated specimens are wheel turned and generally well fired. The fabric ranges between fine red ware to coarse micacious red ware. Selected specimens are described below:

(Fig. 9.33)

1. Largely restored, parallel-sided jar of coarse fabric red ware with beveled rim and ledged shallow base, cut marks apparently appears to be interwoven swastika symbols. (From upper level of period V).

2. Fragment of a thick coarse fabric red ware treated with red slip resembling to that of a finial, mid portion with a set of two horizontal grooves over shoulder and triangular cut marks. (From mid level of period V).

3. Fragment of coarse fabric micacious red ware, treated with red slip showing thick flat circular rim portion of a deep bowl, below the rim triangular cut marks. (From mid level of period V).

4. Fragment of a thick circular cut ware of fine fabric red ware with bold triangular cuts and ridge marks. (From upper level of period V).

5. Fragment of coarse fabric mica mix red slipped red ware showing thick flat circular rim portion of a deep bowl, having prominent triangular cut marks distinguished by applique buttons in the corners. From mid level of period V.

6. Fragment of a cut ware of fine fabric mica mix red slipped ware showing triangular shaped cut out bedecked with a horizontal band of oblique lines at the top. (From mid level of period V).

(k) Knobbed Ware

Among the distinctive pottery types, knobbed ware, reported first from Sisupalgarh, has been considered typical to the site. Typologically, the vessel is categorized as bowl-cum-lid usually, reported in red, grey or grayish black ware with a conical knob at the centre of the inner face of the base, encircled by concentric grooves or incisions. Vessels with the knobs at the inner base have also been reported from the excavations at Jaugada. Being of significant genre, the knobbed ware gets corroborated by their limited occurrence and restricted circulation at a number of sites during the early Historical period.

1. B.B. Lal, Sisupalgarh 1948: An Early Historical Fort in Eastern India, A/5, 1949, pp. 78, 80 & 89, pl. XLVI-B; fig. 6-1 and fig. 8-12; also see Vimala Begley, Ceramic Evidence for Pre-Periplus Trade on the Indian Coast, Rome and India: The Ancient Sea Trade (RIAST), p. 72.
2. IAR 1956-57, pp. 30-31, pl. XLIV-B.
Fig. 9.34: Knobbed ware, Period-V
The nomenclature ‘knobbed’ finds circulation in the context of the Harappan ceramics. Marshall first used the term in the context of Barbotine ware, where he describes that ‘the knobs were applied by the aid of small tube’. Consequent to meager occurrence of this ware, Mackey considers it as an imported variety. A list of sites reporting this type of ware in protohistoric context figures elsewhere. 

Visibly, the so called knobbed ware loaded externally with a series of bosses, occurring in the protohistoric context, may be classified as a generic of Barbotine ware, while the vessels with a knob at the inner base appearing in the early Historic context, may be termed as knobbed vessels of indigenous origin.

Illustrated here are a few bowl-cum-lids with encircled bosses on the inner base of red, black slipped and black and red ware, unearthed from Adam. The fabric is of fine and medium grained clay.

(Fig. 9.34)

1. Basal fragment of a bowl-cum-lid with a protruding knob in the centre encircled by a coil-like formation terminating into damaged loose end.

2. Basal fragment of a bowl-cum-lid with a conical boss encircled by fine incision in two segments.

3. Basal fragment of a bowl-cum-lid with a conical knob in the centre encircled by incisions occurring at regular intervals.

4. A ring base bowl-cum-lid of fine red ware with internally grooved splayed out featureless rim and more or less S curved profile. The surface is treated with fine slip. External portion of the base bears a conical protuberance with a marginal ridge like formation.

(I) Perforated Vessels

The site has reported a sizeable number of perforated vessels in a stratified context from the horizons of sub-period III B, period IV and period V. These characteristic type of pots are largely fragmentary in nature, yet show a wide variety of size and body forms of vases, bowls and straight sided jars. The specimen reported at the site show features of piercing the pot with holes of different diameter, at times following certain pattern. These patterns are sometimes random and occasionally confined to certain part of the pot and at times spreading all over the body.

Out of the nineteen specimens illustrated here, seven show post firing perforation remaining one were perforated when the clay was leather hard by pushing a round implement through the body invariably from the out side. The post fired pots bear limited number of perforation apparently suggesting the difficulty in piercing as well as the reuse of the pot. All the specimen are wheel turned and of red ware of medium to coarse sandy micaceous fabric, with an exception of fine variety. The surface is generally treated with fine red slip at times dull and mica mixed.

The function of these perforated vessels has been termed as enigmatic but our ethnographic observations made in the eastern part of India have answered their use in food processing as well as in other house hold matters. It is being used in steaming boiling and sieving a variety of food products, besides fruit container
Fig. 9.35: Perforated Vessels
and at times as lamp cover or lid. Other possible functions could be determined on the basis of shape of vessels as well as gauge of perforation. The post fired perforated pots might have been reused as play items for children. Described here are nineteen specimens of perforated variety of vessels.

(Fig. 9.35)

1. Fragment of a straight sided medium sized jar of medium fabric red ware, externally treated with red slip showing beaded rim, semi curved sides, and externally grooved space over the body pierced by a row of pre-fired perforations at regular intervals, followed by another row of perforation below. (From Period V)

2. Fragment of a straight sided medium sized jar of coarse fabric dull red ware with nail headed rim, short concave neck and slanting sides. The upper exterior is marked by two rows of pre-fired perforations of uneven nature. (From Period V).

3. Fragment of vase of medium fabric red ware, treated with mica mix bright red slip, externally grooved corrugated concave neck marked by a solitary perforation of post-fired nature, indicating its reuse. (From Period V).

4. Fragment of a bowl of coarse fabric gritty micaceous red ware, treated with self-slip showing a couple of pre-fired perforations (From Sub-period III B).

5. Fragment of a vase of coarse fabric red slipped red ware with thickened beaded rim and oblique sides marked by a single post-fired perforation, indicating its reuse. (From Period V).

6. Fragment of a dish of medium fabric dull red ware with thickened beaded rim and oblique sides marked by a series of post-fired perforations below the rim all around, indicating its reuse. (From Period IV).

7. Fragment of a vase of coarse fabric red ware treated with red slip showing, post-fired random perforations, confined to a portion of the body. (From Sub-period III B).

8. Lower fragment of a bowl of coarse fabric thick red ware showing unoxidised smoky core, partially incurved side is marked by vertical rows of pre-fired perforations. (From Period V).

9. Fragment of a bowl of coarse fabric dull red ware, showing three rows of vertically aligned pre-fired perforations. (From Period V).

10. Fragment of a medium size vase of medium fabric red ware, externally treated with dull red slip and marked by pre-fired perforations of even nature. (From Period V).

11. Fragment of a vase of coarse fabric micacious red ware, thoroughly perforated all along the body in pre-fired condition. (From Period V).

12. Fragment of a bowl of coarse fabric red ware, marked by pre-fired perforations of uneven nature. (From Period V).

13. Fragment of a fine fabric red slipped red ware showing unoxidised smoky core marked by pre-fired perforations of uniform size. (From Period V).

14. Fragment of a thick coarse fabric mica mix red slipped ware showing smoky core, marked by pre-fired perfect circular perforations. (From Period V).

15. Fragment of a lid of coarse fabric bright red ware, marked by a semi circular line of post-fired perforations, indicating its reuse. (From Period V)
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16. Fragment of a vase of coarse fabric red ware. The perforations are made at irregular intervals at pre-fired stage. (From Period V).

17. Fragment of a miniature bowl of coarse fabric dull red ware marked by a single perforation of post-fired condition indicating its reuse. (From Period V).

18. Fragment of a miniature bowl base of coarse fabric red ware, marked by post-fired perforation on the sides and base, indicating its reuse. (From Period V).

19. Fragment of a miniature bowl base of coarse fabric red ware marked by a solitary perforation of post-fired nature, indicating its reuse. (From Period V).

(iv) ROULETTED WARE: (Pl. 9.5)

In Indian context, the Rouletted ware was first discovered at Arikamedu. This ware is invariably represented by the dish having an incurved and beaked rim generally with faceted edge. The design elements occurring on its flat interior include minute triangles, diamonds and parallelograms. These designs have seemingly been obtained over the burnished surface by revolving either a roulette device or by rotating a toothed rolling pin in the centre of its flat interior base, when the clay is wet. The well levigated clay used for potting the dish is treated with slip both internally and externally. The technique of rouletting has been regarded as Mediterranean in origin but there are specimens suggesting indigenous adaptation.

The antiquity of rouletted pattern may be pushed back to the Harappan era. However, any comparison with the single groove and impressed design occurring uniformly on the interior of the dish on stand of the Harappan origin, may be considered far fetched at this stage, but apparently appears incipient to the advanced technology of the rouletting in the early Historical period.

The indigenous type of dishes bedecked with rouletted device has widely been found distributed in the peninsular India, at sites like Amaravati, Arikamedu, Arni, Brahmagiri, Chandravalli, Kanchipuram, Kaveripattanam, Nattamedu, Salihundam, Songamedu, Uraiyr, besides Chandraketugarh, Sisupalgarh and Tamluk.

The present specimen, a thin variety with fine fabric and grey core, has a remarkably smooth surface. It is of brittle and well fired quality, and has a metal ring. The flat interior is left with a decorated band of rouletted pattern. In view of the quality of production, the Adam example of rouletted ware may be considered as of classical genre (Pl. 9.5).

Keeping in view, the widespread occurrence of Rouletted ware in Peninsular India, Sri Lanka and Southeast Asia, V.D. Gogte compared the clays from different sites with mineral contents of Rouletted ware with the help of X-Ray Diffraction analysis. The results have indicated that this ware was produced in the lower Ganga plain with epicentre in the Chandraketugarh-Tamluk region of Bengal. Hence, the pottery with rouletted pattern need not always be regarded as an importation from the Mediterranean region.

Fig. 9.36: Graffiti
The graffiti bearing sherds are of common occurrence from majority of the excavated sites dating back from the protohistoric time to the early Historic period. Attempts have been made to unfold the language of these signs but the scholars in the field are not unanimous. A few have been compared with the Egyptian script used to express ideas and some scholar even noticed the lingering of Harappan writings in them while some traced the genesis of Brahmi characters in these signs. B.B. Lal has extensively examined some of these marks occurring on the Harappan pottery and traced its continuity up to Megalithic times¹, leaving aside early Historical specimens from the purview of his discussion. No doubt that these marks had certain underlying meaning otherwise its continuous occurrence on the pottery from the protohistoric period to the early Historical period cannot be explained.

The graffiti marks reported from the site may broadly be classified under three categories viz. (i) signs of auspicious nature like astral sign swastika and Ujjain symbol etc., (ii) abstract signs, (iii) floral signs and (iv) faunal signs. Without any exception all the signs have been incised with sharp instrument at the post-firing stage. Illustrated here are eighty specimens, majority of them figure as individual signs, while some in pair. Reported here are specimens from period IIIA to period V.

(Fig. 9.36)

1. Black and red ware bowl sherd, incised with tortoise symbol, with limbs proportionately emerging out of ovalish body. (From Period V).

2. Red ware bowl sherd, incised with head portion of a fish over white burnished surface. (From Period V).

3. Red slipped ware sherd bears a carelessly incised loop roughly of U-shape, attached on the left with two short vertical strokes with slight dent and a notch. (From Period V).

4. Red slipped black and red ware sherd incised with an arc-like device with a 'trapaze' in the centre and projected oblique lines with bifurcating ends. (From Period V).

5. Black and red ware bowl sherd incised with trapezoid, externally marked with rays-like random strokes resembling like a nonconventional sun motif. (From Sub-period III B).

6. Black slipped bowl sherd incised with semi circular mark resembling a crescent. (From Period V).

7. Black and red ware dish sherd incised with a vertical line alternately shown with converging oblique lines, representing a stylized coniferous tree. (From Period V).

8. Black and red ware sherd incised with squarish enclosure, on two sides straight strokes across the enclosure wall and on corresponding sides the strokes are of Y-shape. It has L-shaped incision on its bottom right. (From Period V).

9. Black and Red ware sherd incised with a group of symbols consisting of combinations of signs of reversed image of R, numerical four, an incomplete arc connected to a base line and a short curved stroke. (From Period V).

10. Black and red ware bowl sherd incised with a group of symbols consisting of radiating circle resembling sun

symbol and a proto type of nandipada, the two are separated by a vertical stroke with a dent. (From Period IV).

11. Black slipped sherd of a dish incised with couple of astral signs consisting of an ovalish circle cut across suggesting lunar eclipse and a star to its right. From Period IV.

12. Mica slipped red ware sherd incised with strokes forming an interconnected M and W-shapes. From Period V.

13. Black and red ware sherd, internally incised with an incomplete floral motif showing six conical shaped petals connected to a semi circular line indicating a ‘carpel’, below a ‘comma’ like sign. (From Period V).

14. Mica mixed red ware sherd incised with Brahmi letter ta, followed by two independent vertical strokes. (From Period V).

15. Black ware everted rim fragment incised with F-like symbol with an additional horizontal stroke to the left below. (From Sub-period III A).

16. Black slipped ware sherd incised with P-like symbol, below a narrow angled stroke. (From Period IV).

17. Black and red ware bowl fragment incised with A-like design, attached on its right is a vertical stroke with a dent. (From Period V).

18. Black ware sherd incised with couple of oblique intersecting lines intercepted by two opposite oblique strokes headed by a curved stroke. (From Period V).

19. Mica slipped red ware sherd incised with a triangle and a short horizontal strokes to the right of its top. (From Period IV).

20. Mica slipped red ware sherd incised with a variant of Sl. No. 17, attached to its right a horizontal stroke with teeth-like projections at regular intervals. (From Period V).


22. Black and red ware sherd incised with W-like overlapping strokes. (From Period V).

23. Black and red ware sherd incised with couple of devices, left one resembles a ‘plough-frame’ with a tiny yoke-bar, right one showing couple of curved parallel lines joined by a short vertical stroke on left. (From Period IV).

24. Dull red ware sherd incised with a vertical line intersected by an oblique line, curved at upper left. (From Period V).

25. Black and red ware bowl fragment incised with inverted U-like character, resembling Brahmi letter ga, two parallel oblique lines running across the curved top showing and additional short stroke. (From Period V).

26. Black and red ware sherd incised with Brahmi letter ga, near its top an additional short oblique stroke to the left and an angle to right. (From Period V).

(Fig. 9.37)

1. Red slipped ware sherd incised with conventional humped bull to right seen yoked to an elongated triangular frame. (From Period V).

2. Micaceous red ware sherd incised with a symbol resembling mini windmill. (From Period V).
Fig. 9.37: Graffiti
3. Micacious red ware sherd incised with ‘scaffolding’ like conventional frame in which left end of the horizontal bar attached to an obtuse angle and the right to a vertical, towards the obtuse angle side of the bar rests an oblique stroke while in the centre occurs an angular figure of a ‘human’ being bent at right angle to right, with hands stretched behind the hips and hairs up. (From Period V).

4. Mica mix brown slipped ware sherd incised with a symbol resembling parallel-bar. (From Sub-period III B).

5. Black and red ware bowl fragment incised with conventional four legged animal device, two short oblique strokes emerging from the central bar may be taken as saddle like projection. (From Sub-period III B).

6. Black and red ware sherd incised with conventional four legged animal to right, facing below a short stroke and a curved oblique stroke. (From Period V).

7. Black and red ware sherd incised with a conventional ‘centaur’ to left, behind it a vertical stroke intersected by four horizontal strokes of varying sizes, in addition to a short notch above right. (From Period V).

8. Mica slipped black ware incised with conventional four-legged animal to right with raised neck. (From Period V).

9. Coarse red ware vase fragment showing couple of incisions one above the other, upper one resembles capital X, the upper and lower ends respectively being joined by horizontal strokes, while the lower one is like a ‘tripod’ with a long vertical line terminating into an angle, another short stroke is seen to left at the junction of legs. (From Period V).

10. Black and red ware bowl fragment showing couple of incisions, the left one resembles inverted nandipada while the right one is a variant of Sl. No. 9 above. (From Period V).

11. Black and red ware sherd showing a pair of graffiti designs one above the other, the upper resembles reverse ‘Z’ while the lower one appears like a manual thrasher. (From Period V).

12. Red slipped ware sherd incised with draw-well manual pulley like design the triangular incised end is suggestive of weight tied to curved bar resting on a pivot supported by couple of vertical posts, other end of the bar terminates half way. (From Period V).

13. Black and red ware sherd incised with a group of five parallel vertical lines. (From Period V).

14. Black and red ware sherd incised with a group of five parallel vertical lines of varying sizes, parallel to its top runs an oblique line. (From Period V).

15. Red slipped ware sherd incised with a group of five parallel vertical lines, three of them are intersected by a horizontal like at top. (From Period V).

16. Black and red ware sherd incised with two vertical lines connected with the diagonals. A triangle is attached to it on its left. (From Period V).

17. Black and red ware sherd incised with two parallel vertical lines topped by two intersecting oblique lines, like an elevation of structure. (From Period V).

18. Black and red ware bowl fragment incised with an incomplete triangular enclosure filled with small random vertical hatchings, indicating some kind of crop pattern. (From Period IV).
19. Black and red ware bowl fragment incised with two intersecting oblique lines, the left and right ends respectively joined by vertical strokes thus forming two triangles of different sizes. (From Sub-period III B).

20. Mica slipped black and red ware bowl fragment incised with a variant of Sl. No. 19 above. (From Period V).

21. Brown slipped coarse red ware sherd of a vase, incised with an incomplete rectangular enclosure filled with seven oblique lines, left portion damaged, the penultimate curved stroke touching the base line intersects the last oblique stroke. (From Period V).

(Fig. 9.38)

1. Mica slipped red ware sherd of a vase incised with a swastika symbol showing angular arms in anticlock order. (From Period V).

2. Red slipped black and red ware bowl fragment incised with a variant of Sl. No. 1 above, stroke of upper arm to left is detached, left arm has slight curved lower end while right arm terminates into Brahmi letter na. (From Period V).

3. Red ware bowl fragment incised with a variant of Sl. No. 1 giving impression of radiating arms. (From Period V).

4. Red slipped ware vase incised on its shoulder a variant of Sl. No. 1, lower portion of improvised swastika sign is incomplete. (From Period V).

5. Red ware sherd of a vase incised on its shoulder a variant of Sl. No. 1, terminating arms, however, fashioned in clock order. (From Period V).

6. Red ware sherd incised with two vertical lines cut by three horizontal lines thus forming two rectangular compartments. (From Sub-period III A).

7. Black ware bowl fragment incised with a variant of Sl. No. 6 above in which two long vertical lines cut by four horizontal lines extending towards right. (From Period V).

8. Red ware sherd of a vase incised with 'ladder' symbol having two long vertical lines intersected by six short horizontal strokes forming six steps. (From Period V).

9. Red ware sherd incised with a variant of Sl. No. 6 above. (From Period IV).

10. Micacious dull red ware sherd with a variant of Sl. No. 6 above, upper segment in open mode. (From Period V).

11. Red slipped ware sherd incised with ‘tripod’ like symbol. (From Period V).

12. Black and red ware bowl fragment incised with two oblique lines meeting at the top, while their lower parts terminate into ‘forklike’ device, another oblique stroke attached to the upper right part. (From Sub-period III B).

13. Red ware sherd incised with arrow like mark showing short drooping oblique strokes on either side of the long vertical stroke at top and forklike termination at bottom. (From Period V).

14. Red slipped ware sherd incised with Brahmi letter ta showing separately an additional oblique stroke to its right. (From Period V).

15. Red ware sherd incised with three horizontal lines intersected by equal number of vertical strokes, thus forming segmented panel. (From Period V).
Fig. 9.38: Graffiti
16. Mica slipped black and red ware sherd incised with three horizontal lines intersected by four short vertical lines, forming pigeon-hole like six compartments, a vertical stroke below, serve as support to upper segment. (From Period V).

17. Black slipped bowl fragment incised with ‘tripod’ like device topped by three horizontal strokes one above the other at intervals. (From Period V).

18. Black and red ware bowl incised with a vertical line cut at top by relatively long horizontal line having bent ends, intercepted by two oblique lines from either side. A separate short horizontal stroke is seen at top and a vertical stroke inside the left oblique line. (From Sub-period III A).

19. Black ware bowl fragment, incised lower part shows three pronged forklike device, its extended upper stroke is intersected by a horizontal stroke at top with right end showing longer axis. (From Period V).

20. Black ware sherd incised with a variant of Sl. No. 19 above, showing unevenly terminating prongs below. (From Period V).

21. Black and red ware sherd incised with a vertical line intersected at uneven intervals from either side by oblique strokes of varying sizes. (From Period V).

22. Black and red ware bowl fragment incised with couple of symbols on a horizontal plain, left one resembles Brahmi letter ta while the right a tripod. (From Period V).

23. Black and red ware sherd incised with a variant of Sl. No. 20 above. (From Period IV).

24. Black and red ware sherd incised with an arrow head symbol. (From Period V).

25. Black and red ware sherd incised with three pronged tripod like device. (From Period V).

26. Black slipped ware sherd incised with a triangle headed stroke with a curved end, below a symbol of two short curves resembles early Brahmi letter ya. (From Period V).

27. Black and red ware bowl fragment incised with a vertical line supported by a single oblique stroke on left and two oblique intersected strokes on right. (From Period V).

28. Black and red ware sherd incised with a variant of Sl. No. 20 above showing two oblique strokes attached to either side of the vertical line. (From Period V).

29. Red ware sherd incised with an elaborate tanged arrowhead. (From Period V).

30. Black and red ware sherd incised with bow and arrow sign. (From Period V).

31. Black ware sherd incised with an ‘arc’ like symbol with a vertical stroke in centre. (From Sub-period III B).

32. Black and red ware bowl fragment incised with a pair of arrowheads. (From Period V).

33. Black and red ware sherd incised with dumb bell like Ujjain symbol. (From Sub-period III B).
Pl. 9.6: In situ view of storage bin fragments reused as floor pavement, Period-IV

Pl. 9.7: Applique band of circular floral motif with six petals, Period-IV