

Systematic Surface Survey at the Early Historic Site of Kaundinyapura, India

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Abstract

Systematic, intensive surface collection at the 6.5 hectare site of Kaundinyapura in central India provides data to analyse economic activities at a town sized settlement tied to a regional network from the late first millennium B.C. to the early first millennium A.D. The data show a widespread pattern of manufacturing and consumption activities at the site, and that trading activities were likely to have taken place at the household level. The assessment of local and regional trading patterns provides a more comprehensive view of the Subcontinent's political economy in the Early Historic period, a time of increasing social complexity and long-distance exchanges.

Introduction

In the Early Historic period (c. third century B.C. to the fourth century A.D.), the Indian Subcontinent was integrated into a long-distance trade network that linked the economic spheres of the Roman Mediterranean, the East African coast, and Southeast Asia. Previous analysis of this trade has concentrated on the exchange of exotic goods, although in India, a wealth of archaeological evidence from excavations indicates that the majority of trade activities took place on a regional level and involved ordinary domestic goods (Smith 1997). These local and regional exchange patterns flourished at a time when the political organization of the Subcontinent was relatively weak, consisting of a mosaic of competing small-scale chiefdoms and tribal units (Casson 1989; Mirashi 1981). Local and long distance trading systems were anchored by stable population centres such as cities and ports that constructed their trade networks opportunistically and maintained flexible trade links. Urban sites were particularly stable despite political fluctuations. Excavations conducted at numerous Early Historic cities illustrate a high level of sustained investment in public architecture, town planning and fortifications (Allchin 1995; Chakrabarti 1995; Ghosh 1973).

Smaller settlements, such as towns and villages, also flourished during the Early Historic period; in some regions, there were no urban sites at all. Many of these sites have been investigated and the published reports of excavations have made it possible for us to identify categories of goods shared between sites, suggesting that

trade networks incorporated sites of all sizes. Most Early Historic sites throughout the Subcontinent show evidence of a shared repertoire of material goods such as local coins, beads and marine shell (*Turbinella pyrum*); in addition, there are widespread regional distributions of similar pottery types such as the Red Polished Ware of the western Subcontinent or the Rouletted Wares known from the south. The availability of these data now permit a variety of new questions about economic variability *within* sites and the way in which households and neighbourhoods participated in trade through the production and consumption of durable goods.

Because excavation provides a great deal of information but is generally limited to only a portion of an ancient site, the study of intrasite patterns requires the assessment of the whole site's archaeological remains. Systematic surface survey, including mapping and the collection of a representative sample of artefacts, is a cost-effective means of conducting whole site research and has been widely utilized in many regions of the world. This method, as applied in South Asia, has yielded useful results for the Indus period (Miller 1997; Vidale 1990) as well as for the medieval era (Morrison 1990; Sinopoli and Morrison 1995). The project described below shows how intensive surface survey and artefact recording at town and village sized sites can provide data to enhance the understanding of local and regional economic patterns of the Early Historic period.

The project was designed to examine regional exchange from the point of view of a medium sized trading

site, to assess how trade goods were distributed, and what the inhabitants produced to finance their consumption. The survey recorded a homogenous distribution of traded goods such as sandstone and micaceous pottery, along with locally manufactured pottery and evidence for small scale lithic manufacture. The distribution of these artefacts throughout the site suggests that trade relations were maintained through a variety of contacts sustained by households across a landscape of dispersed population.

The Survey

The 6.5 ha site of Kaundinyapura is located in the Vidarbha region of central India, approximately 100 km west of the modern city of Nagpur (Fig. 1). The site was the subject of limited excavations on two of the mounds in 1962 and 1964 by M.G. Dikshit (Dikshit 1968). The report of these excavations provided information about chronology and the range of artefacts that shared material culture characteristics with other sites in the region. Permission for this survey of Kaundinyapura was granted by the Government of India in 1993; the fieldwork and accompanying labora-

tory work were undertaken from October to December of 1994, and from September to December of 1995.

As is the case with many archaeological sites in India, there is a modern habitation in close physical proximity to the archaeological remains. One early goal of the project was to determine the extent to which ancient remains were obscured by current habitation on the northern edge of the site. The 1994 survey had partially addressed this question through the use of opportunistic "grab" samples taken at any places in the village where there was exposed earth (such as refuse pits and manure pits). These samples produced only modern pottery types that did not match the ceramics from the excavations and survey on the southern mounds. In 1995, there was an opportunity to examine some deeper trenches associated with the expansion of the village's principal temple complex; again, only recent ceramics were encountered. Finally, profiles of the hillocks on which the modern village is located indicated a very thin deposit of anthropogenic soil one to two metres in depth, indicating a relatively short lived modern presence. The

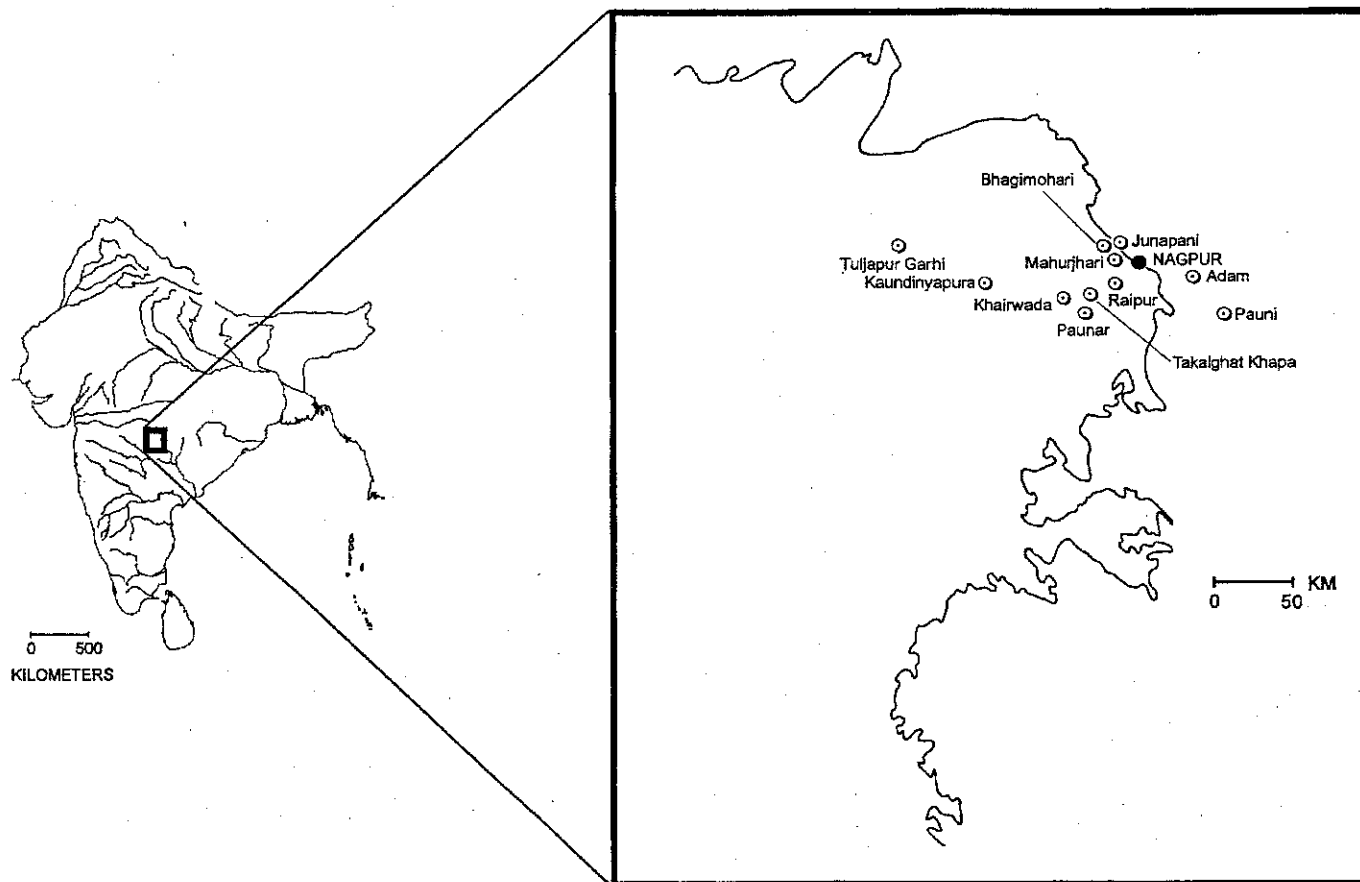


Fig. 1: Kaundinyapura and other megalithic and Early Historic sites in the vicinity of the modern city of Nagpur, India. On the large map, the line shows the edge of the Deccan Basalt Province; the area to the left of the line is the easternmost occurrence of the Deccan basalts in central India

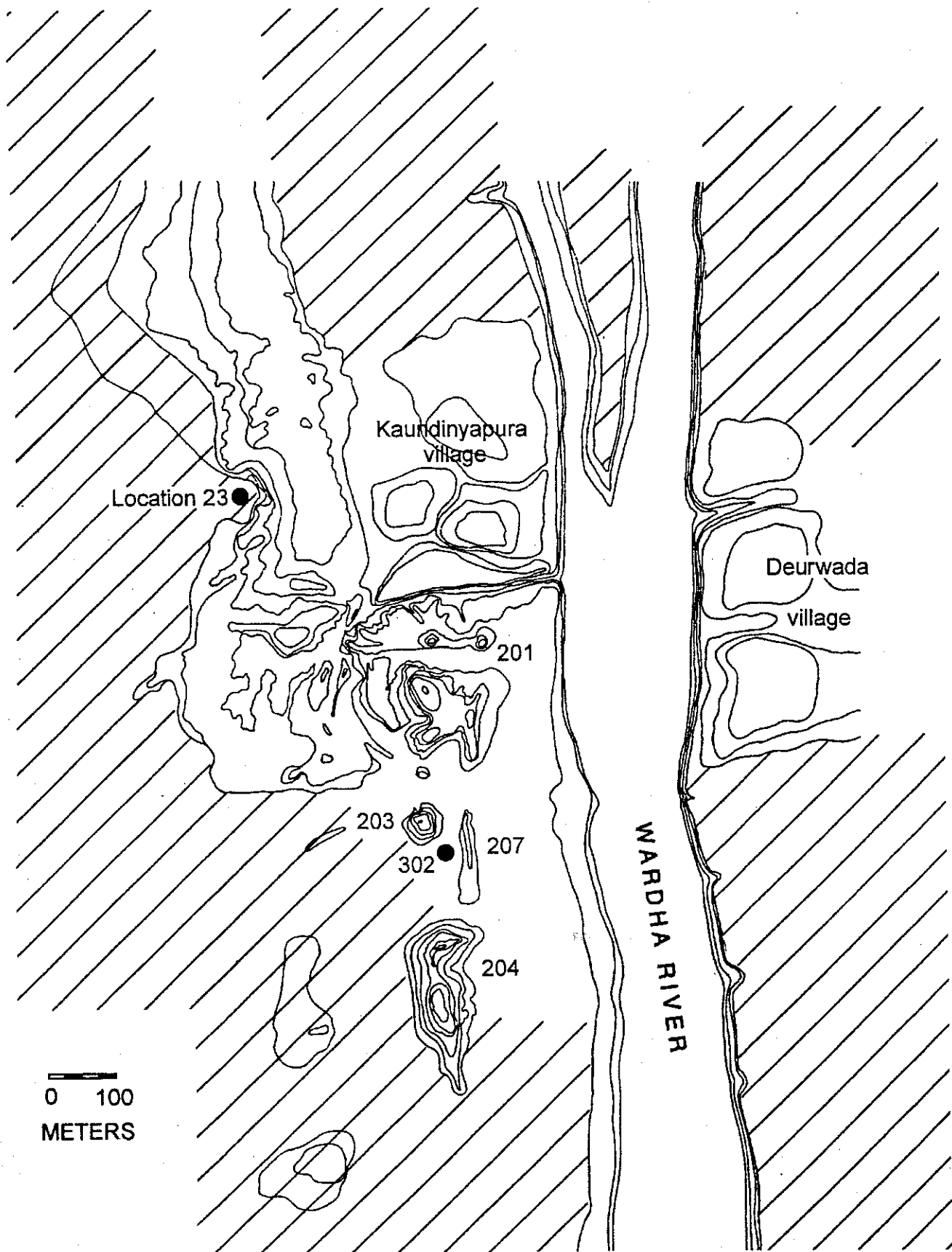


Fig. 2: Kaundinyapura and its environs. The shaded area shows the zone of systematic pedestrian transects around the site

same observations were made about the village of Deurwada on the east side of the Wardha River.

The modern village of Kaundinyapura has as its southern boundary a small creek and an abandoned, eroded zone that is used as a refuse dump. To the south of this “no man’s land,” the archaeological site of Kaundinyapura consists of four distinct mounds, each consisting of cultural material on the natural elevation of an alluvial terrace paralleling the Wardha River (Fig. 2). These mounds, or tells, are covered by a variety of different types of vegetation. The northern portion of the archaeological site is covered with grasses that have been kept short by grazing animals (principally cattle, but also goats). The southernmost portion of the site is currently covered with very dense vegetation planted in the late 1960’s by the Forest Department. This vegetation extends to the river on the eastern side of the mound; the flatlands to the west and south consist of ploughed fields.

The differential vegetation on the site necessitated a survey and recovery strategy that could be adjusted to conditions of variable visibility (Fig. 3). In portions of the site where ground visibility was good, a grid based sampling and collection strategy was employed; in areas that were thickly vegetated, an alternate collection strategy was employed using cleared areas so that collection could take place. The relatively high density of the sherds encountered on the northernmost mounds of the archaeological site (the 201 collection area, also known locally as the Bhim Tekdi) suggested that a 1% sample would not

only yield quantities of materials large enough to address questions of artefact distribution but also of a manageable size with respect to logistical demands such as processing, transportation and storage (for comparative examples from other Old World sites, see Keay, Crieghton and Jordan 1991; Morrison 1990; Sinopoli and Morrison in press).

The goal of the fieldwork at Kaundinyapura was to collect a representation of the whole site, rather than the maximal recovery of a specific type of archaeological remains such as houses, streets or trash dumps. To gather this representative sample, a map of the northern mounds was first made utilizing a Brunton compass and a 100 metre measuring tape. The map was then overlaid with a 20 x 20 m grid, and in each grid square, a sample unit of 2 x 2 m was randomly selected using a systematic, non-aligned sampling strategy. The use of this type of sampling was preferable to using a simple grid, since any regular grid might have by chance overlain regularities in underlying archaeological phenomena (see Hodder and Orton 1976). For example, if the ancient town had been laid out on a grid plan, the use of a superimposed collection grid by a researcher might consistently pick up only houses, only streets, or only trash dumps. Prior to collection, each 2 x 2 m sample unit was outlined on the ground with pegs and string, providing a precise outline of the collection boundaries (Whallon 1983). At Kaundinyapura the benefits were two fold: the boundaries meant that the attention of the collector was confined to the correct sized sample unit, and the presence of strings discouraged children from entering the collection zone.



Fig. 3: Mound 203 survey strip

Each sample square was meticulously collected to recover all artefacts and production debris such as debitage and slag, as well as transported objects such as shell and raw materials. During collection, a recording sheet was filled out for each sample square noting the vegetation cover, visibility, the presence of architectural remains, and any unusual artefacts noted during the collection. This sample recording form was later utilized for additional notations during the analysis of the collected artefacts in the laboratory. Building materials (bricks and tiles) were counted and weighed at the site using a portable spring scale. These bulky materials, once counted, were returned to the exact area of the collection square. The remaining collected materials were placed in individual bags and taken to the laboratory in Nagpur for washing and identification. As collection progressed, there was a noted decrease in artefact density in the flatlands surrounding the mound; sample units were thus increased to 4 x 4 m in these areas, raising the total collection area to 2.3% of the site's surface.

The presence of very dense vegetation on the southern mounds 203 and 204 meant that the placement of systematic grid squares was highly unworkable. As an alternate collection strategy, strips of vegetation were cleared for the placement of a contiguous group of sample units. The location of the strips was chosen for even coverage of the site, while also avoiding an old excavation trench on the highest point of mound 204. Additional samples were taken whenever visibility permitted (for example, in areas exposed by erosion). Finally, the minor linear mound 207 was sampled using a composite method: because the location of artefacts was greatly circumscribed, a series of 2 x 2 m collection squares was placed at regular intervals to delimit the boundaries of artefact occurrence and to provide a comparative sample with the larger nearby mound at 201. The distribution of systematic samples for the entirety of the site is shown in Fig. 4. The surface collection and recording strategy utilized at the site of Kaundinyapura produced data about consumption and production activities at the site as represented by artefacts and production debris. Over 32,000 sherds were recovered for analysis, along with animal bones, freshwater and marine shell, metal fragments, slag, lithic debitage, chert nodules, and grinding stone fragments.

During the course of the collection process, it was assumed that artefacts from the Early Historic period were probably affected by subsequent activities such as farming, and strategies were employed to assess how actions such as ploughing might affect the perceived size of the ancient site. The collection strip from mound 203 included several squares in the farmed flatlands on each side of the mound, to discern whether artefacts could be recovered in ploughed fields, and to assess how they might have arrived there: as materials eroding from mounds, as representative of ancient settlement in the flatlands, or as the result of contemporary

farmers using household refuse as fertilizer. The units in the portion of the 203 strip that were in the modern field yielded little in the way of artefacts; in addition, as collection proceeded the only artefacts noted in fields consisted of modern trash. Observations of modern manuring pits filled with dung sweepings provided an indication that fields were subject to routine additions of domestic refuse. This practice was also noted by the compilers of the 1911 Gazetteer of the Amravati district, who reported that "fields near the large towns are sometimes manured with the town sweepings" (Fitzgerald and Nelson 1983[1911]: 194).

To locate additional remains and to evaluate whether all non-mounded artefacts were the result of modern manuring activities, the collection strategy was supplemented by systematic investigation of the area beyond the mounded portions of the site. Systematic pedestrian transects, walked by two persons at intervals of 10 metres, were undertaken within 100 m of the modern village and of each archaeological mound. Most of the fields surrounding the site were planted in cotton, with visibility of the ground being good although the plants were at waist high level. Again, remnants of modern trash (plastic fragments, porcelain) were almost the sole artefactual remains noted in this extended survey zone.

Although the alluvial areas around the mound were likely to have been areas of subsidiary production in the Early Historic period, this hypothesis was difficult to test since intermittent monsoon season flooding has probably removed any archaeological trace of such activities. Only in two cases were there remnants of archaeological activities. Locality 23 (15 x 60 m) was of relatively recent origin, probably a small household or farmstead of the 18-19th centuries. Locality 302 (15 x 55 m), immediately adjacent to mound 207, was an area of scattered stone fragments (sandstone and limestone) of a density similar to stone scatters on the mounded portions of the site. The presence of these stones on the alluvial flats may be associated with disturbance of mound 207 which has also resulted in the mound's very narrow configuration. Other elevated regions did not appear to have been utilized for ancient settlement: these include the two low rises to the west and southwest of mound 204, and the alluvial terraces under the modern village of Kaundinyapura.

Chronology

In central and southern India, the Early Historic period is preceded by a megalithic phase of the Iron Age, distinguished by the presence of stone circles and other forms of piled stone architecture including cists and dolmens (Deo 1985). The earliest radiocarbon dates for the megalithic period in central India are 750-100 B.C. (uncorrected; habitation levels at Bhagimohari) and 545-105 B.C. (burial site at Naikund; for a recent summary of radiocarbon dates for the megalithic period, see Mohanty and Joshi 1996:

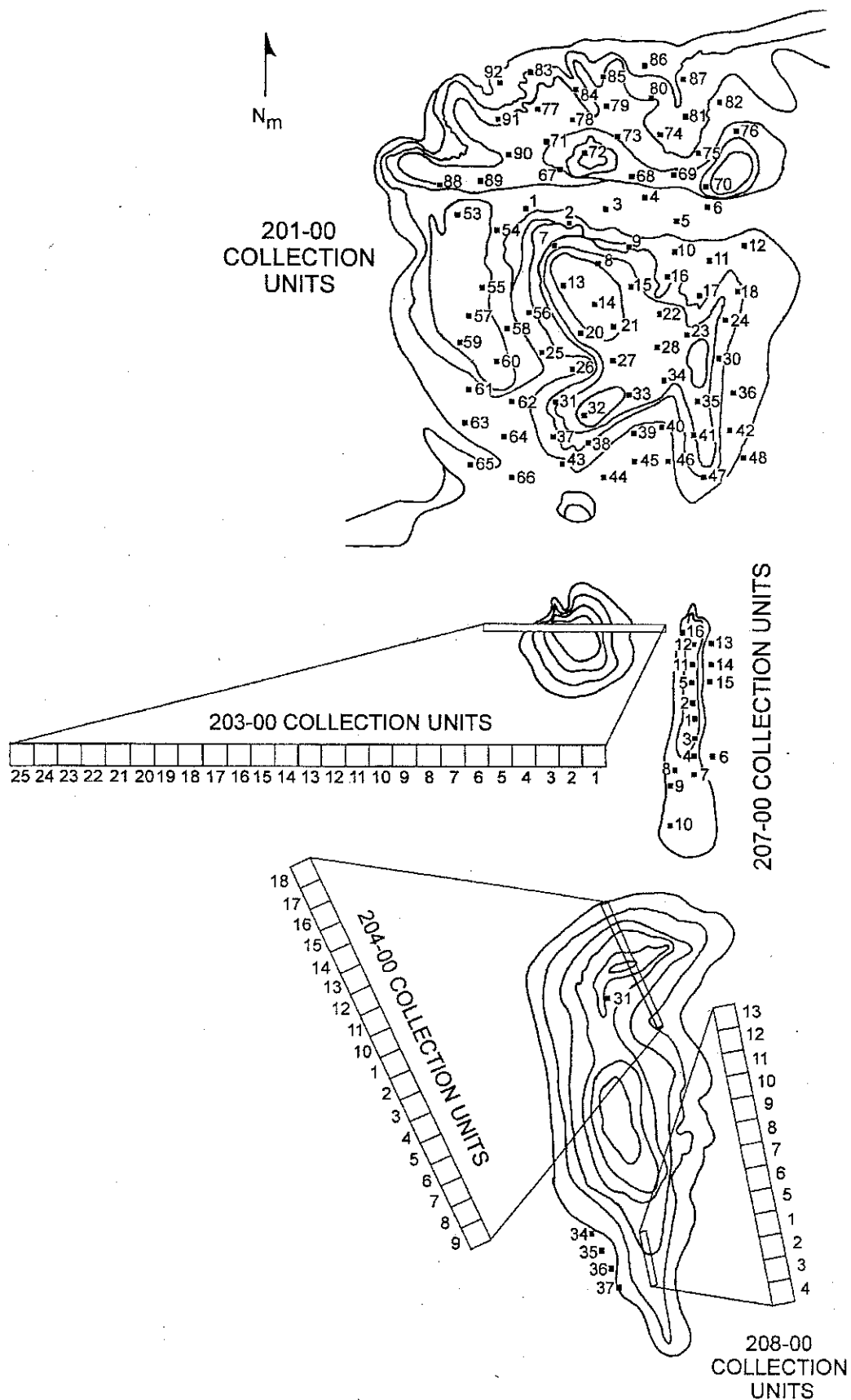


Fig. 4: Collection units: Kaundinyapura

165). In the southern peninsular subcontinent, the megalithic tradition appears to have continued well into the first millennium A.D., with reports of “megalithic” pottery as late as the sixth century A.D. (IAR 1962-63: 67).¹ Nor are “megalithic” materials always associated with actual megaliths. Indeed, the separation of megalithic from Early Historic materials appears to be predicated on the assumption that “megalithic” activities are distinct from, and therefore must predate, “Early Historic” activities.

Some separation of the artefact assemblage between the megalithic and the Early Historic period is, however, possible. At Kaundinyapura, ceramics were analyzed to determine site chronology through a comparison of decoration and forms with the published excavations at the site (Dikshit 1968). Comparisons were also made with ceramic descriptions from other published excavations in the region, including Mahurjhari (Deo 1973), Paunar (Deo and Dhavalikar 1968), Pauni (Deo and Joshi 1972), Raipur (Deglurkar and Lad 1992), and Takalghat Khapa (Deo 1970). At all of these sites, decorated wares are limited to the earlier portion of the megalithic/Early Historic period. The collections at Kaundinyapura had an extremely low proportion (0.00016%) of decorated wares, indicating that the majority of surface ceramics were representative of the later range of the “megalithic/Early Historic” time period.

The upper date range of the artefact assemblage collected at Kaundinyapura can also be assessed through the ceramic corpus. Of the 1757 ceramic rims from the 1994-95 collections at Kaundinyapura, only two conformed to shapes described as post-Early Historic in the published reports of neighboring sites. The remainder of the Kaundinyapura assemblage may therefore be dated no later than the fourth century A.D. Further attempts to distinguish chronological periods within the general “Early Historic” date did not produce reliable results. For example, it has been suggested that the thickness of wares known as “Black-and-Red” wares increases with time; thus, “thin” Black-and-Red ware is early, and “thick” Black-and-Red ware is later (e.g. at Paunar, Deo and Dhavalikar 1968; see also the reports for Bhagi Mahairu (Bhagimohari), IAR 1982-83; Khairwada, IAR 1981-82: 52). This general trend was not quantified at these sites, among which Paunar and Khairwada are the two largest excavated sites in proximity to Kaundinyapura.

Although all ceramics from the Kaundinyapura survey project were analysed for thickness, the resulting data set did not produce any clear patterns on the distribution of different types of finewares based on thickness. The most promising means of distinguishing between early and later assemblages may well be in the measurement of subtle changes in characteristics of wares that otherwise appear to

have a long time-span. However, such an assessment would need to be performed first on an excavated sample from a stratified context to demonstrate change over time.

Other categories of artefacts supported the assignment of a uniform, Early Historic date to the surface materials. Clay roof tiles known as “Satavahana tiles” (Fig. 5) were recovered in the collection units at Kaundinyapura; these tiles are known to postdate the megalithic period, as they are found in excavated habitation layers associated with other Early Historic materials such as coins. In the Vidarbha region, these tiles have been located at Paunar in the period IIB levels (first century B.C. to mid-third century A.D.; Deo and Dhavalikar 1968: 9). Further to the south, in what is now the state of Andhra Pradesh, the tiles were recovered in the 1977-78 excavations at Satankota in levels of period IIA (mid-first century B.C. to mid-third century A.D.; IAR 1977-78: 7). In the north, at the site of Ahar in Rajasthan, tiles of the Early Historic period were recovered as well (Sankalia, Deo and Ansari 1969: 194). The widespread use of tile roofs in this period is also known through the depictions of buildings in the glyptic art at the Buddhist site of Sanchi (see Rao 1984).

Stone objects also yield chronological information. At Kaundinyapura, the fragments of two elaborate “Satavahana” legged querns were recovered, with one fragment from the upper western flank of the mound 201, and another fragment found in the ploughed fields immediately to the west of mound 204. Other types of stone objects included stone pestles, of a variety also known from the megalithic burials at the nearby sites of Junapani (IAR 1961-62: 33-34), Mahurjhari (Deo 1973) and Raipur (Deglurkar and Lad 1992: 63-64).

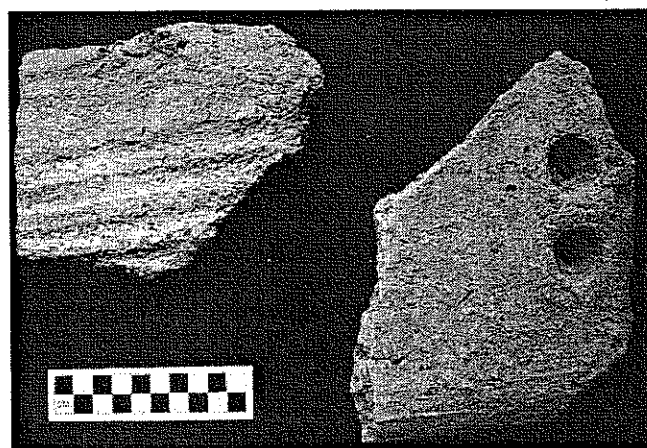
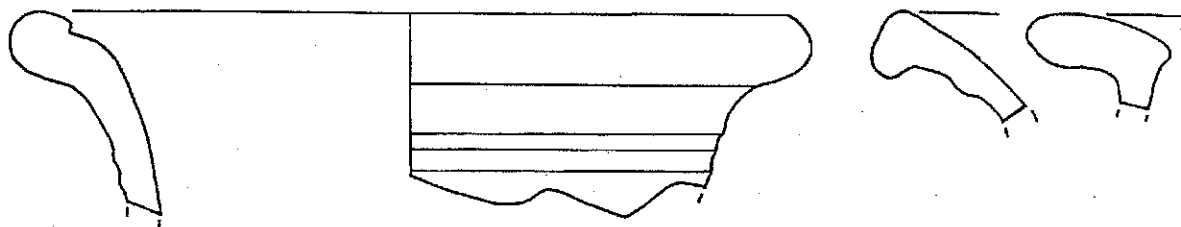


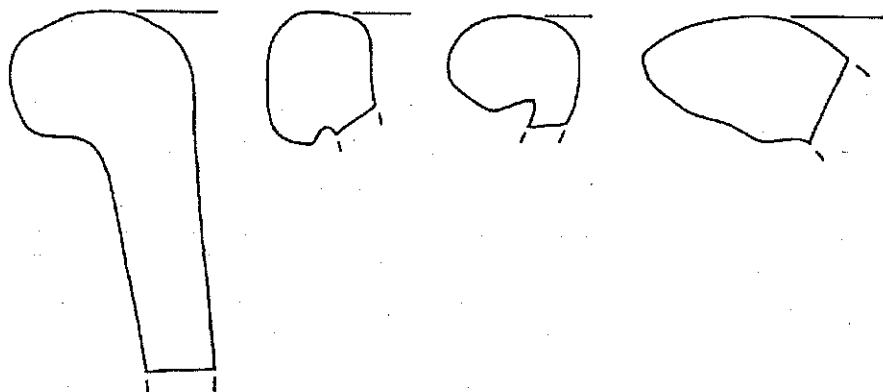
Fig. 5: “Satavahana” tile fragments from systematic collection units at Kaundinyapura

¹ Mohanty and Joshi (1996: 159) argue that in contrast to the remainder of south India, the megalithic period of the Vidarbha region does not continue beyond the 3rd century B.C. although these observations are based on radiocarbon dates from only four sites.

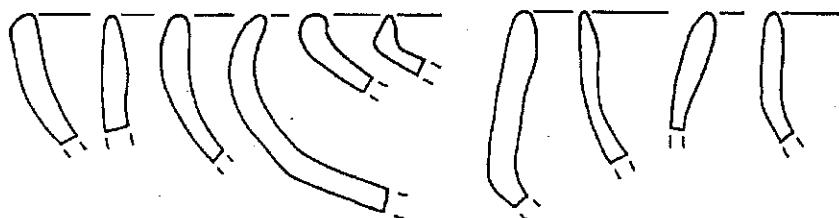
Red-slipped wares



Jars



Thin finewares



Micaceous wares

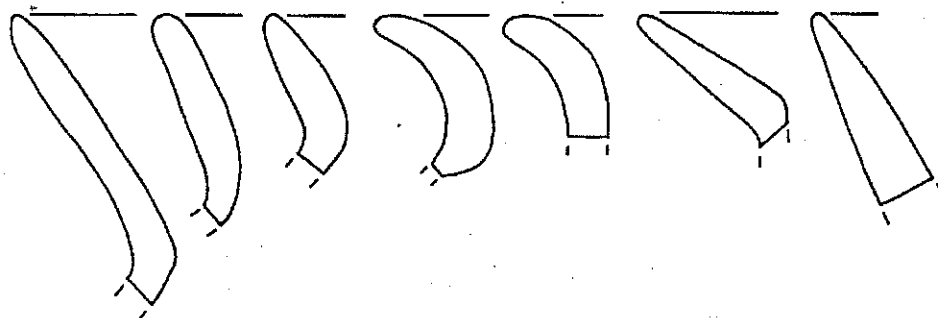


Fig. 6: Principal ceramic categories at Kaundinyapura

Survey Results

Analysis of the collected ceramics at Kaundinyapura indicates that over 99% of the surface material dates to the Early Historic period (c. third century B.C. to the fourth century A.D.). Further analysis of these ceramics, along with the analysis of manufacturing debris and non-local goods, provided a basis for the assessment of production and consumption activities for this period at the site.

A precise description for the ceramics was facilitated by the creation of a type collection, in which wares were separated by colour, thickness, presence of slip, and visible inclusions such as mica. The type collection for Kaundinyapura was built up over the course of the analysis, so that new types were added very frequently at the beginning; new types were added as the analysis proceeded whenever a previously undescribed type of ware was encountered. A total of 200 different types were identified, of which 49 had 10 or fewer total sherds represented at the site (some of these infrequent categories may represent anomalies in firing technique, but they may also represent relatively rare ceramics such as the one sherd that belonged to a very striking "Northern Black Polished" ware description). For each collection unit, the ceramics were sorted and counted with reference to the standardized descriptions developed for the project.

For the purposes of the following analysis, the ceramics at the site were divided into four mutually exclusive groups (Fig. 6).

- Red-slipped wares: medium-fine to medium-coarse paste; wall thickness of body sherds 2.5 mm to 13.9 mm; thick matte or glossy red slip on the exterior of the vessel; everted rims, often bulbous, with the slip reaching partway into the opening of the vessel. [These are wares of the type that are often described as Red Polished Ware or "Polished Red Ware", although in the absence of a standardized definition such labels can be confusing. Ceramic production was probably very localized, even if styles were shared within large regions.]
- Coarse wares: medium to coarse paste, wall thickness 11.0 mm to 26.6 mm; generally unslipped, although occasionally bearing a crude, fugitive reddish slip; very thick, bulbous or rolled rims.
- Thin finewares: very fine, silty paste; wall thickness 2.5 mm to 8.4 mm; polished to a high gloss on both sides; almost exclusively large, shallow bowl forms. [This category consists of wares that are often called "Black-and-Red" ware in descriptions of South Asian ceramics. However, this project's definition of thin fine wares is more restrictive than the term "Black-and-Red" ware, which is often applied to any ceramic that is fired in a partially reduced, partially oxidized atmosphere.]

- Micaceous wares: wares of any thickness that contained more than 5% mica in the fabric (the thickness range was 2.0 mm to 10.4 mm); generally unslipped; generally extremely friable; rim profile almost always an everted plain rim.

Each of these four ceramic categories is characterized by a different appearance, size, construction and fabric. Although it is not possible to affirm that these distinct categories were also ascertained by the ancient inhabitants, the analytic categories present the opportunity to assess what appears to have been the basic repertoire of durable artefacts at the site. The ceramic assemblage at Kaundinyapura was relatively homogenous throughout the site: 77% of all systematic collection units contained at least three of the four categories. When only units containing 10 or more sherds are considered ($n=144$), 90% contained three or more groups and 41% contained all four ceramic categories (Table 1).

This relatively homogenous distribution of artefacts can be further analyzed to assess economic activities, including production, exchange and consumption. The red slipped wares and thin fine wares found at Kaundinyapura are identical with other forms in the region; compositional analysis of a small sample of thin fine wares, however, indicates that the production of these wares was done using local clays at various sites in the Vidarbha region. Using X-ray diffraction, Dr. V.D. Gogte of Deccan College analyzed a small sample of ceramics from Kaundinyapura for comparison with similar looking wares from the site of Raipur; this comparison indicated that although the wares from the two sites look identical, their elemental composition is distinct (reported in Smith 1997: 314-316; see also Deglurkar and Lad 1992). In addition there are two types of non-local items found at Kaundinyapura: mica and sandstone, which occur in a large proportion of the collection units (Table 1).

The site of Kaundinyapura is located on the eastern edge of the Deccan Basalt Province, a geologic deposit of volcanic material (Mukherjee 1967). Mica and sandstone are therefore not locally available, and would have come from a minimum distance of 75-100 km away to the east. These non-local goods are distributed throughout Kaundinyapura, indicating that access to these items was widespread among the site's inhabitants (Smith 1999). The excavations by M.G. Dikshit (1968) also produced palaeobotanical evidence of rice, which according to historical records was traditionally grown in the region around Hinganghat (His Majesty's Secretary of State 1908). This is the same area from which sandstone and mica would have been available, and again indicates trade links between the region and the site of Kaundinyapura.

What types of goods were the inhabitants of Kaundinyapura creating for exchange? Evidence for some

types of production activities was recovered on the mounded areas of the site, including lithic raw material and debitage (in 49 units), heat reddened cherts (in 8 units), and metal slag (in 11 units). The distribution of slag, debitage and raw materials suggests that the production of durable goods took place throughout the site. In addition, the systematic pedestrian transects around the mounded portions of the site yielded limited evidence for the organization of production activities. The elevated areas next to the Wardha River appear to have been reserved for habitation, and activities requiring more space and/or producing noxious by products (odours, debris, ash, slag) would probably have been located away from the habitations on the adjacent alluvial areas. Another important means of producing a surplus for exchange would have been based in the area's rich potential for the exploitation of forest products (such as wax, resins, gums, wood, dyes, medicines, wild animals), as well as the production of an agricultural surplus in the form of grains, cotton or domestic animals.

Discussion

The distribution of artefacts at Kaundinyapura is indicative of a relatively limited repertoire of durable goods produced and consumed at the site, with a homogenous distribution throughout the habitation area. This is mostly likely to represent a pattern of economic activity in which production and consumption activities were undertaken at the level of the household (following Finley 1967[1954]; Pollock, Pope and Coursey 1996; Stanish 1989; Stark 1985). The concept of a co-residential, kin-linked "household" unit is an attractive one for archaeological study, because it has both emic and etic integrity. Ethnographically, households are the smallest unit of economic activity, in which the family unit is the generator of labour and the recipient of production (Sahlins 1972: 76-77; see also Finley 1967[1954]). And households, as the "smallest architectural and artefactual assemblage repeated over a settlement" (Stanish 1989: 11) comprise distinct analytical units in the archaeological record (see also Alexander 1998). The household continues to be the basic unit of production and consumption even when supplemented by other economic and social hierarchies, since choices about basic consumption items such as food continue to be bounded by household parameters (Fine and Leopold 1993: 191-193).

At present, the identification of households in the archaeological record of the Indian subcontinent remains problematic because of the small scale of most excavations and the tendency to emphasize monumental architecture such as megaliths and early Buddhist stupas in regions where the latter occur. Excavations of domestic architecture at the site of Arni, 110 km south of Kaundinyapura, produced well constructed square and rectangular houses

provided with wells and "bathrooms" (IAR 1978-79: 71). The recovery of tiles at other habitation sites in the region, as well as the presence of prepared floors, also indicates the investments made in domestic architecture during the Early Historic period. Large pottery lined wells occur in nearly every excavation undertaken in areas of habitation deposits; it appears that these features (often filled with Early Historic refuse) were installed by individual households. While all of these observations are tentative in the absence of large scale excavations of domestic areas, they suggest that population centres consisted of households represented archaeologically by architecturally distinct units.

At Kaundinyapura, the 1962-64 excavations similarly produced evidence for prepared floors, pottery lined wells, and tile roof construction (Dikshit 1968). The systematic survey at the site showed that domestic use artefacts such as ceramics, grinding implements and lithics were widely distributed throughout the site. This homogenous distribution indicates that such artefacts were acquired, used and discarded by a large segment of the population. How were these goods made available to each household? One hypothesis is that elite members of the community were responsible for an organization of production and consumption that resulted in the allocation of similar goods to all households. However, signs of elite activity at Kaundinyapura are minimal, and there were few indicators of elite wealth such as long distance trade goods, ornaments, or labour intensive artefacts. Some portions of the site have a higher quantity of bricks and jar fragments which could be interpreted as evidence for a greater level of investment in architecture and storage (Smith in press). At Kaundinyapura, the greater distribution of red-slipped ware in the southern portion of the site correlates with this higher investment in architecture, further indicating that this portion of the site may have sustained a slightly wealthier population with more display goods and stored (agricultural) wealth.

In a recent article on surface survey and the household archaeology of the Uruk period, Susan Pollock and her colleagues suggest that when assemblages are homogenous, elite zones may be marked by a higher quantity of goods (Pollock *et al.* 1996: 693). However, without additional correlation of elite status (especially rarities or objects indicative of high labour investment), it is difficult to determine conclusively that artefact densities are due to variance in wealth or status. Site formation processes may result in the differential distribution of artefacts across a site's surface, resulting in concentrations of artefacts (Schiffer 1987: 199-234). By contrast, archaeological indicators of ubiquity are less likely to be the result of such activities, since even the most extreme site formation processes could not account for a uniform distribution of artefacts such as sandstone and micaceous pottery on all four mounds of the site.

While the archaeologically demonstrated presence of elites at Kaundinyapura is not therefore sufficiently distinct to suggest that economic decisions were made at levels higher than the household, there were some overall distinctions in site wealth when sites are compared. In 1994-95, an extensive reconnaissance within a 10 km radius of Kaundinyapura revealed only one other Early Historic site four km to the north, a settlement of 0.75 hectares in size at Dhamantri (Smith 1997: 209-216, 295-300). While the same types of artefacts were recovered, the overall density was lower, suggesting that Dhamantri was a small satellite village of Kaundinyapura.

At the regional level, it appears that the closest larger site than Kaundinyapura is at the 58 hectare site of Paunar, 55 km to the southeast (Deo and Dhavalikar 1968). The closest site with evidence of elite occupation is the 40 hectare fortified site of Adam, 150 km east of Kaundinyapura (IAR 1988-89: 50-62; Nath 1992). The Early Historic site of Pauni is also found in this region, in which recent excavations have confirmed the site's participation in long distance trade activities (Nath 1998; see also Deo and Joshi 1972). While all of the Early Historic sites in Vidarbha exhibit a similar material culture repertoire, the relatively greater wealth noted at Adam and Pauni may have been linked to cross continental Buddhist pilgrimage and trade routes. Further investigation to the west of the Kaundinyapura survey zone may also reveal more sites, although it is unlikely given the long tradition of explorations in this area that a large centre remains undiscovered.

In general, then, economic decisions involved the conscious choice of non-local goods as part of each household's repertoire of domestic use items, but there does not appear to have been a systematic organization of production, distribution and consumption. Site such as Kaundinyapura flourished during a period in which there were few signs of political cohesion, and the systematic survey in the region immediately around Kaundinyapura indicates that the region was relatively underpopulated as well. Contacts between people were likely to have been maintained through a variety of networks including those based on kinship as well as networks of exchange through itinerant vendors, markets and fairs.

As modern material culture studies have illustrated, the consumption of goods serves to unite as well as to differentiate, where the presence of a shared domestic repertoire confirms and projects household identity (Douglas and Isherwood 1979; Gottdiener 1995; Miller 1985; Wilk 1990). In the Indian subcontinent during the Early Historic period, the need for a shared identity grew as population increased and social ties across large territories began to transcend the narrow boundaries of Iron Age tribal social organization. In the more densely populated areas of the subcontinent to the north and west, new political entities had already begun to consolidate territory around urban

sites, and Buddhist religious establishments provided community focal points and relatively secure marketplaces (see, for example, Liu 1988; Ray 1986).

Similarities in domestic goods were a physical manifestation of a consciously chosen shared identity in which goods displayed in the household proclaimed the links of that household with the wider region (Smith 1999). These widespread social ties became important links in the subsequent development of strong and sustained political organizations such as the Vakataka chiefdom, which established itself in the vicinity of Nagpur in the fourth century A.D. (Altekar 1982[1960]). This development also coincided with the beginning of a depopulation of the area of Kaundinyapura, which may have resulted when the region's sparse population was drawn towards a new, semi-urbanized centre with needs for labour and resources.

Conclusion

Systematic survey and collection programmes at sites of any size provide information about the distribution of artefacts and production debris that are important in understanding economic activities related to the production and consumption of goods, which in turn illustrates the social links maintained across landscapes. At Kaundinyapura, the collection programme permitted the analysis of such activities at three different levels. At the intrasite level, it was found that non-local goods as well as production debris were widespread, indicating that decisions about economic activities were likely to have been undertaken at the household level.

At the micro regional level of analysis, the presence of similar goods at both Kaundinyapura and the smaller settlement of Dhamantri indicated that there were economic and social links between sites but that the general area of western Vidarbha was relatively underpopulated in the Early Historic period. And on the regional level, Kaundinyapura is seen to have been one of many sites in the Vidarbha region whose inhabitants were trading goods, probably perishables, with areas to the east where desired goods such as sandstone, mica and rice could be obtained. This robust regional trade activity thus was the basis upon which the sites in eastern Vidarbha were able to become linked with the long distance trade and religious networks of the early centuries A.D.

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