

The Work Place of Potters in Kalibangan

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KEY WORDS Place. Clay Bangles. Work Shelf. Waste Disposal.

ABSTRACT Development of exquisite pottery in period I in Kalibangan was a necessary consequence of the configuration of the causal powers of cascading slope, proximity to mud and grazing ground for draft animals. The causal powers were realised only when the Kalibangans developed the need of study wares for translocation of milk and water over long distances. Temporary rehabilitation of the settlement at the end of Period I disrupted potters' link with their clients. Rehabilitation of the settlement in Period II restored the community but the potters' work place was cramped with the living quarters of the new settlement. Substitute work places were tried in some areas south of the fortified settlement of Period II. The alternative work places were more constraining than enabling causing termination of pottery of Period I in Kalibangan. The Kalibangans continued to be served by new pottery of the Indus valley Culture in period II but there is no geographical way of knowing if the new pottery was imported from across the Indus or was made locally.

INTRODUCTION

Close to the beginning of the third millennium B.C., Kalibangan of Period I was famous for its exquisite pottery. The potters and the other Kalibangans lived on the western of the two levees KLB-1, located along the left bank of the Ghaggar (Saraswati) river in Ganganagar district of Rajasthan. Beyond a central gap of about 50 m was the eastern levee, KLB-2, which remained uninhabited till Period II of the third and second millennium B.C. Contributing to the development of pottery were the causal powers, liabilities or tendencies (Harré, 1972, 1986; Bhaskar, 1979) of the work place of potters on the western slope of KLB-2 as an extension of their place of living on the eastern slope of KLB-1.

THE LIVING PLACE OF POTTERS

A place is physical space bearing expression of an act of some people (Mamatamayee, 1992a). Expressing the act is an ensemble of things which stand in some relation to each other enabling or constraining the act of human agent. These things may be man-and nature-made landform and man-made artifacts. Human agen-

cy is a necessary condition in articulation of a place. Physical space of a place is essentially a container that enables body movement that is required for intentional act of the actor. The container is structured with the things enabling the act defining a place. The act defining a place of living is that of rest or replenishment of energy required for the acts of biological existence and social survival (Mamatamayee, 1989, 1990). The act has expression in dwellings or shelter structures as ensemble of artifacts which enable or constrain the acts of living in the dwellings.

The living place of the Kalibangans of Period I was dispersed in five clusters of mud brick dwellings when the period came to an end (Thapar, 1985). Each site was differentiated in access to different configuration of spatial liabilities which could be enabling in some acts while constraining the others. The clusters were of different shape and size (Fig.1). The mid-north cluster was the smallest. The dwellings were arranged in an N-shaped row at the closest distance from the river. It had maximum security against inundation from the river being at the maximum elevation with respect to the Ghaggar. The occupants of the dwellings had

direct and shortest access to the river front for such acts as fishing. Dwelling were arranged in zigzag row in a small cluster in the northeast enabling gathering from the riverine woodland. The south eastern cluster had a 1.5 m wide east-west running street separating a smaller row of houses in the north from a larger row in the south. Though farthest from the only source of water in the Ghaggar, the occupants of the cluster were closest to grazing ground and farm land in the south (Mamatamayee, 1992b; 1993a). The cluster in the south-west was the largest where dwellings were arranged around an irregular network of streets. It had maximum privacy and security for artisans, merchants and functionaries of power being ensconced between a gully in the north, crest-line in the east, back slopes of a spur in the south and riverside swamps in the west.

There was a linear hamlet in the mid-east, barely any larger than the row further south (Fig. 1). It was located at the toe of a rectilinear or uniform slope on the eastern face of KLB-1. Beside it was the col of the central gap. The col rose to the two levee hillocks in the east and west and descended to the river in the north and to the alluvial plain in the south. The hamlet was the eastern edge of the settlement of Period I facing uninhabited KLB-2 a short distance away.

The mid-eastern cluster was a living place of potters. The cluster lacked direct access to the waterfront and the river-side vegetation in the north and to the grazing ground and farmland in the south. However, the living place of the potters was linked to all other clusters through paths running across gullies and gaps in the living place enabled potters to build physical space in their routine act of pottery.

THE WORK PLACE OF POTTERS

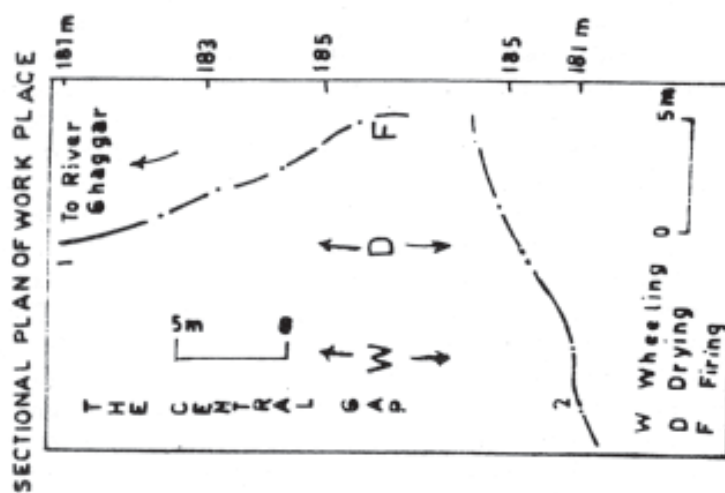
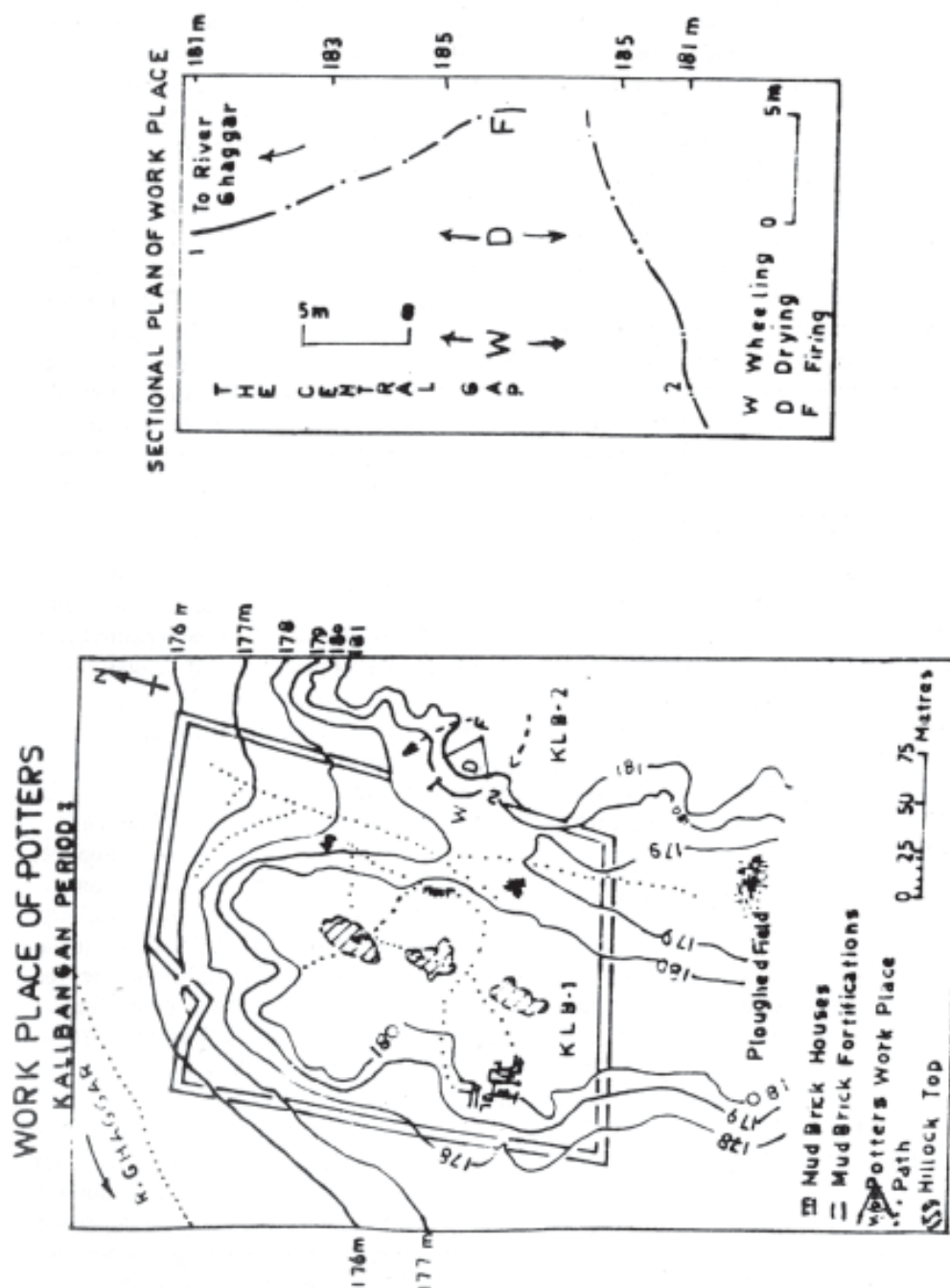
A work place is what enables people to act for their social survival. It is where people practice their means of livelihood. Structuration of a work place requires assembly of material things required for the work in physical space in the form of the container holding the artifacts

and enabling body movement required for the work.

Different potters specialize in making different wares but the liabilities of a work place are the same everywhere. The premise is based on the study of potters of east Delhi conducted by the author under the auspices of Mud Housing Society of Delhi in the year 1988-89.

A nuclear family of potters in Delhi uses a minimum of a cart-load of mud for a period of a month, or a donkey-load for a period of a week. A truck-load is shared by many potters where the service is available. A family of potters may require about two buckets of water for kneading the clay though cleaning after work may take more. A flat surface of less than 3m X 3m is sufficient for shaping the mud. Moulded clay is air dried in the open on shelf-like structures avoiding strong and direct sunshine. Strong midday sun can crack the drying wares so they may be spread on a somewhat protected slope. The slope may be terraced in shelves for better airing. Drying shelf has to be safe from urchins and stray animals. Family keeps a vigil on the drying wares. Safety for the wares is sought in extending the drying shelf between a potter on wheel on one side and a wall, an edge of a slope, or a corner of a building on the other side.

Clay toys are painted after drying but other wares are fired on a flat, open ground in a heap of soft and slow burning fire. Saw dust is most preferred fuel though difficult to obtain. Dried grasses and leaves act as the next best suitable fuel though the only available fuel in Delhi is dung cake. Fuel wood in any form is not used as it can pierce through the raw wares. Firing ground may be shared. It is cleared for its repeated use by removing ashes and damaged wares. The waste of damaged ware and burnt fuel is heaped at the fringe of the working pit or is slipped along a slope nearby. Waste disposal gradually builds a slope outward and increases elevation of the work place. It is not a matter of coincidence that many a sherd-bearing archaeological sites are in form of mound or



Figs. 1 and 2

elevated ground, even a level ground gets elevated in the process of pottery.

The clients needing an earthen ware may go to a potter's work place for small needs. More often, potter moves from door to door to serve the clients. Households needing the wares on a particular day are widely dispersed. Potters move from one settlement to another to dispose of this wares by the end of a day. A potter gains ease of mobility by loading his wares on a cart or a draft animal. Potters tend to use asses and occasionally, mules for transporting wares and fetching mud. Rearing of animals is contingent on access to forage. Herbivores like asses, prefer soft grasses or leaves of low bushes and trees (Ethrington, 1975). This is common where sub soil water is just within the reach of roots of grasses and legumes (Brown, 1935; Weaver and Clements, 1938; Daubenmire, 1974). Land close to a water body is liable to support the vegetation for forage. Proximity to water tends to be associated with clay-rich mud required by potters, apart from giving direct access to water for kneading clay. The spatial liabilities of a potter's work place have their clearest expression in Kumhar (Potters') Mohalla of Ghonda village in east Delhi. Houses of potters have formed a cluster on a hill top and around a pond nearby with small spill overs to adjoining lanes of Vishwas Nagar.

REALIZATION OF SPATIAL POWERS IN KALIBANGAN

The causal powers necessary to actuate the work of potters were present in the working shelf on the western slope of KLB-2, opposite the potters' living place on KLB-1 (Fig. 1). The slope rising from their living place to the hill tops of KLB-1 had the same liabilities as the slope to the west on KLB-2 but drying of wares on KLB 1 was open to the hazards from wandering humans and animals where all the dwellings were located. Firing close to the dwellings would have been hazardous to the residents. The uninhabited KLB-2 was free of hazards from and to the residents of Kalibangan.

Potters' work place in Kalibangan was a cascade of shelves on a gentle slope (Fig.2) arranged on the western slope of KLB-2 opposite their living place on KLB-1 (Fig.1). Potters spread their wheels at the toe slope of KLB-2, barely any distance from their dwellings. Moulded wares were dried on the slope rising to the hill top of the eastern levee. Dried leaves were collected for firing at the hill top, away from living area on KLB-1. Waste was disposed by slipping it through the gully daring from the hill top to the river in the north. The gully kept clear of the drying vessels and the potters working below. The gully to the south of the firing palce could be used for carting down the finished goods (Fig.1) and for ferrying them to the clusters of dwellings on KLB-1 (Fig.1) or to the other settlements to the south and west or east of Kalibangan.

The potters of Kalibangan used asses for fetching clay from the south, water from the north and for ferrying the wares to their clients. Use of asses is attested by animal remains in the archaeological deposits of Kalibangan (IAR, 1964-65: 38). The asses could graze on the southern forage while the potters dug clay from the area. When not in use they could forage on the levee slopes around the dwellings or the work place of potters. The potters obtained clay from the southern ground (Mamatamayee, 1993b). These depressions were the remanents of what makes levee-back swamps (Thornbury, 1954). The swamps were formed when the Ghaggar was depositing the Kalibangan levees during a wet phase of the Pleistocene climate. Clay gets trapped in levee back swamps. Some clay forms chemically below a water-soaked surface (Bridges, 1970; Selby, 1971). Post-Pleistocene rainfall in Kalibangan pooled water in micro-depressions to keep the surface wet and maintained clay formation below the wet area. In some seasons, the Ghaggar deposited clay in swales, or micro depressions, which are elongated along a meander loop in the north. Hydrated clay from these pits could be used to make bluff colored ware (Mamatamayee,

1993b) which are classified in fabric E by Thapar (1969).

THE CONTINGENCY OF POTTERY

The spatial powers of the work place could not be realised but for the people needing the wares. Pottery became a necessity when the pastoralists of Kalibangan (Mamata Mayee, 1992b) began to graze their cattle on the southern pasture far removed from their only source of water in the Ghaggar in the north. Search for pastures took them to still more distant areas in summers when the need for repeated use of water for drinking required water in bulk. At least on some days animals could be kept on the foraging ground when the grasses near the settlement had exhausted completely. This required transporting milk from the distant foraging ground to the dwellings on the levee. Domestic vessels made of vegetation could not carry milk or water in bulk or over long distances. It required a firm vessel as that of mud.

The graziers were in the habit of moulding clay when they began to graze their animals in immediate south of the settlement. While animals grazed on the southern pastures, people tending them whiled away their time rolling clay from the nearby depressions. Ends of the rolled strings were joined to make clay bangles. Thousands of such bangles, blackened over time, recovered from the south of the levee, have given their name, (*Kali* means black and *Bangan* means bangles in local dialect) to the archaeological site (Lal, 1979).

Those who moulded clay to bangles could also shape it to a vessel when the need arose. Origin of pottery all over the world lies in hand moulding of clay on a basket or a piece of cloth (Child, 1936, 1942, 1957). From learning to mould clay to bangles the Kalibangans graduated in shaping it to a domestic vessel on a piece of cloth. This is suggested by recovery of a single specimen of hand-moulded vessel bearing textile impression (IAR, 1961-62, plate LXVII A) from the western slope of KLB-2 belonging to Period I in Kalibangan (IAR, 1961-

62: 43). Clay bangles could be moulded on the southern field and transported back home easily. Hand moulded vessel was too heavy and clumsy to be transported long distance. It was easier to mould and dry it near the place of its use, that is the dwelling area.

The vessels could be moulded and dried safely on the slope of KLB-2 opposite the place of rest of the potters. Many of the hand-moulded vessels must have lumped and were discarded and abandoned on the working shelf. The slope continued to be used as a working shelf when technology changed from hand-moulding to use of potter's wheel. The discarded wares were thrown away from the settlement towards the upper slope of KLB-2 in the east which was later developed to a firing ground. Many of the specimens must have been washed away in rain water. Some disintegrated *in situ*. They formed terracotta nodules interspersed with sizable bits of ashes when the vegetation of the area was burned to level the ground for raising dwellings during Period II. These could be terracotta nodules and ashes filling foundations of dwellings of Period II (IAR, 1961-62: 31). Only some of the dwellings have this filling (Lal and Thapar, 1967; Thapar, 1975). These could be the dwellings on the site where the hand-moulded vessels were discarded and later set to fire. Wheel thrown pottery also was made on this shelf as is suggested by recovery of pottery of this Period from this slope of KLB-2 though otherwise the levee was uninhabited during this period (IAR, 1961-62; 1963-64).

DISARRAY IN THE CONJUNCTION OF THE CAUSAL POWERS

Enabling the development of pottery in Period-I in Kalibangan was the conjunction of causal powers actuated in the needs of the people. The conjunction was disjointed with the exodus of the people from KLB-1 at the end of Period I. A dislocation in the wall and floor of a dwelling of the south-western cluster was followed by vacation of all the dwellings of all the clusters by their occupants bringing

Period I to its end in Kalibangan (Lal and Thapar, 1967; Thapar, 1969, 1975, 1985; Lal, 1979, 1984). This was the cause of disarray of pottery in Kalibangan.

Dehabilitation of the clusters broke the link of the potters with the community that necessitated pottery in Kalibangan. Broken link was the cause enough for the potters to look for a living place elsewhere. The potters could have clients in the northern desert and the Aravallis in the south and east of Kalibangan but pottery in these areas was constrained by absence of clay-rich mud required for the work. The Indus valley people from the west of Kalibangan had arrived, where the community supporting the potters was in disarray, giving the Kalibangans the glamorous pottery of the west. This was the reason enough for the potters not to have moved to the west further down the Ghaggar.

The potters were constrained to move eastward upstream of the Ghaggar. Some of them reassembled at Sothi producing Sothi Ware (Ghosh, 1952) identical to Period I pottery of Kalibangan. Close to Kalibangan, Sothi enabled the potters to serve the other populations which they had been serving from their location in Kalibangan. Some of the potters continued to move further east until constrained by the Hindan river at Alamgirpur. The Hindan, a tributary of the Yamuna, had changed its course from the west to the south-east causing widespread marshes over the area of shift. Drying of these marshes has caused clay pan below saline soil in Ghaziabad district bordering Delhi as seen now.

Mass exodus following the dislocation in a single dwelling did not disrupt the community of the Kalibangans altogether. At least some of the populations reassembled on KLB-2 where they built a new residential complex in Period II. The mid-north cluster of KLB-1 could find similar spatial powers along the northern slope of KLB-2. The south-western cluster could find sanctuary in the middle of the eastern levee. The eastern clusters of KLB-1 could be relocated along the western slope of KLB-2. The dwellings which made single files in the older

residential complex formed a single linear hamlet along the western gate of the fortified settlement on KLB-2 in Period II.

Some of the potters of Period I could resettle on the western slope of KLB-2 with the rest of the community setting there in Period II. Absence of salients along the western certification wall, unlike the other side of the wall, suggests that the gate was used by the commoners (Kesarwani, 1984; Thapar 1984) which could include potters. However, the former work place was now cramped with living quarters and had to be shared with the migrant potters. Sharing is suggested by intermingling of pottery of Period I and II above the level of the pottery of Period I on the western slope of KLB-2. Frequency of pottery of Period-I decreases with increasing elevation disappearing altogether at the upper levels (IAR, 1967-68: 43-44). Suggesting that the site was eventually abandoned by the potters of Period-I.

Transposition of dwellings over the slope destroyed the causal powers of space as a working shelf. Cramped with living quarters it could no longer be used for drying and firing. Alternative work place was sought over the abandoned ploughed field. This is suggested by presence of clay and ash pits and Harappan structures of Period-II overlying the abandoned field of Period-I (Lal, 1971). Lacking in protection, such as that of a shelf, the site could not make an enduring work place. More enduring alternate work place was sought in the slope along the southern fortification wall on KLB-1 of Period-II. This is suggested by excavation of pottery dump from this area (Lal, 1979, 1984). Though the fortification wall provided safety for the wares on one side, the area was on route of the pilgrims visiting the ritual complex on KLB-1 of Period-II. The shelf could be used for display of the finished wares rather than as a fully developed work place. Perhaps Kalibangan of Period-II never had a work place for potters.

CONCLUSION

Development of pottery in Period-I in Kalibangan was a necessary consequence of the spatial mechanism built in the acts of potters. Pottery was disrupted with break up of the community of the Kalibangans whose agents were the users of the earthen wares. Most of the potters moved out of Kalibangan in search of a new work place during temporary dehabilitation of the place between Period-I and-II. Some of them could have stayed back to work on the new work place south of KLB-1 but perhaps potters never found a substitute working shelf in Kalibangan of Period-II. They left the place altogether during Period-II. Kalibangan continued to have pottery which could have been built elsewhere and distributed from here but there is no geographical way of knowing it.

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