

ARCHITECTURAL FEATURES OF THE EARLY HARAPPAN FORTS

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ABSTRACT

What is generally called the Indus or the Harappan Civilization or Culture and used as interchangeable terms for the fifth millennium BCE Bronze Age Indian Civilization. Cunningham (1924: 242) referred vaguely to the remains of the walled town of Harappa and Masson (1842, I: 452) had camped in front of the village and ruinous brick castle. Wheeler (1947: 61) mentions it would appear from the context of Cunningham and Masson intended merely to distinguish the high mounds of the site from the vestiges of occupation on the lower ground round about and the latter doubt less the small Moghul fort which now encloses the police station on the eastern flank of the site. Burnes, about 1831, has referred to a ruined citadel on the river towards the northern side (Burnes 1834: 137). Marshall (1931) and Mackay (1938) also suspected of identifying Burnes citadel and Mackay (1938) had to suspend his excavations whilst in the act of examining a substantial structure which he was inclined to think was a part of city wall. Wheeler had discovered a limited number of pottery fragments from the pre-defense levels at Harappa in 1946 but the evidence was too meager to provoke serious discussion. The problem of origin and epi-centre of the Harappa Culture has confronted scholars since its discovery and in this context the most startling archaeological discoveries made and reported by Rafique Mughal (1990) is very significant and is a matter of further research work.

Keywords: Harappa, Fort, Architecture, Archaeology, Indus Valley Civilization.

The term fort in ordinary usage implies strong hold, offering protection and security to the inhabitants that seek refuge in it. In Sanskrit language, it is commonly known as *Durga* – meaning hard to approach, difficult of access, or inaccessible. In Vedic literature, it is referred to as *Pura*, meaning a fortified city, thus equating a city and fort. Forts are of two kinds – Permanent Fortifications and Field Fortifications. The permanent fortifications is known as a *Fortress*, protecting or enclosing a center of population, while a field fortification that is *Fort* occupied only by soldiery, depends a position primarily strategic. Fortification has a great importance in art history and archaeology as relation of art history and archaeology is just like body and soul. Fortification as an art emerged when man visualized something called ‘art’ in his

construction. An alternative approach for Harappan fortification is taken up here as a monumental architecture with multipurpose aspects.

Fortification in the archaeological context can be defined as a protective or defensive work or enclosure around a settlement or area with or without a ditch or moat. Such defensive structures are built on a formal or informal plan and generally bear massive character. The principal structural features of any fortification are massive walls with attached quadrangular or semicircular bastions to strengthen the walled structure and to serve as watch – towers, besides one or more gates, sometimes even with guardrooms.

STATUS OF EARLY HARAPPAN CULTURE

Mortimer Wheeler had discovered a limited number of pottery fragments from the Early/Pre-defense levels at Harappa in 1946 but the evidence was too meager to provoke serious discussion. Archaeological fieldwork carried out in the fifties yielded important evidence in this regard. In 1955-57 at Early Harappan cultural horizon, unknown hitherto, was noticed at Kot Diji on the left bank of the Indus and it was augmented by the work of Casal at Amri in 1959. A level comparable to that of Kot Diji was discovered at Kalibangan in 1961. Wheeler (1968) had postulated that opportunity and genius might be responsible for the origin of the civilization and the idea of civilization came to the land of Indus from the land of the twin rivers. Further, in the seventies Sarai Khola, Gumla, Hathala and Jalilpur in Pakistan were excavated and Siswal, Banawali and Balu in India were excavated during the same period. Explorations carried out by Rafique Mughal in Cholistan during 1974-77 brought to light a of cluster of more than four hundred sites of early, mature and late stages of Harappa culture in a 300 mile long strip along the Hakra river bed. Among these sites 99 belong to Hakra ware culture, 40 to the Kot Dijian culture, 174 represent mature Harappa culture and 50 are assignable to the late Harappan (Cemetery H) culture (Mughal 1977-78: 84-88; 1982: 85-86). Mughal calls these cultures immediately preceding the Harappa culture as ‘Early Harappan’ instead of pre-harappan. To avoid confusion, the more commonly used term ‘Early Harappan’ has been retained. The excavation at Mehgarh have brought forth enormous amount of fresh material, much earlier in date, to that noticed at Kile Gul Mohammad in the limited excavation in 1950. All this material of Early/Pre-Harappan sites remains largely unpublished (Dikshit 1980: 32-43).

There is some controversy about the origin and nuclear area of these cultures. The first direct support of Marshall’s and Childe’s premise that Indus civilization had a long antecedents history on the soil of India came from N. G. Majumdar’s work in 1929-31 at Amri as a part of his explorations in Sindh. At Amri he found an archaeological level with destructive pottery stratified below the Harappan level and noted the similar stratigraphic position of this type of pottery at a number of Sindh sites including Ghazi Shah. He argued on this basis that the Amri pottery should be looked upon as representing an earlier phase of the Chalcolithic civilization than that represented by

Harappa and Mohenjodaro (Majumdar 1934). A. Ghosh postulated a firm Sothi substratum in the makeup of the Indus Civilization on the basis of the pottery identified at sites like Sothi to match the pottery from Early/Pre-Indus Kalibangan and also on the basis of the parallels he sought for the pottery of Early/Pre-Indus Kalibangan in the corresponding levels of Kot Diji, Harappa and several Baluchistan sites. Bridget and F. R. Allchin (1968: 123-125) wrote that a large if not a major element in the Harappan Civilization must derive from an Early Harappan culture of the Indus Valley itself. D. K. Chakrabarti (1972-3) assessment was that an Early Harappan villages may be said to have introduced in the Harappan distribution belt the following technologico-economic features: an extensive use of wheels, a limited but developed knowledge of copper-bronze, a plough-based cultivation along with a knowledge of locally cultivatable crops, the use of durable building materials, the laying out of a nucleated settlement within the walls, the turning out of a wide variety of terracotta and stone objects, a good deal of regional inter-connection, and undetermined quantum of external trade contract. K. N. Dikshit mentions that the Balakot-Amri-Kot Diji matrix was the nuclear region of Early/Pre-Harappan cultures and the Cholistan and northern Rajasthan elements of an Early /Pre-Harappan culture were a later imposition although Sothi had its own indigenous traits (Dikshit 1980: 32-43). On the other hand S. P. Gupta believes that the 'form' of Harappan culture originated in the lower Sarasvati basin from where it moved towards the Indus (Gupta 1975-76: 141-146). A third view, perhaps more appropriate, is that of Y. D. Sharma who thinks that the origin of Early/Pre-Harappan cultures lies in the Bolan Valley, and the adjacent area of northern Baluchistan, Afghanistan and Iran, particularly because at Mehrgarh and its neig

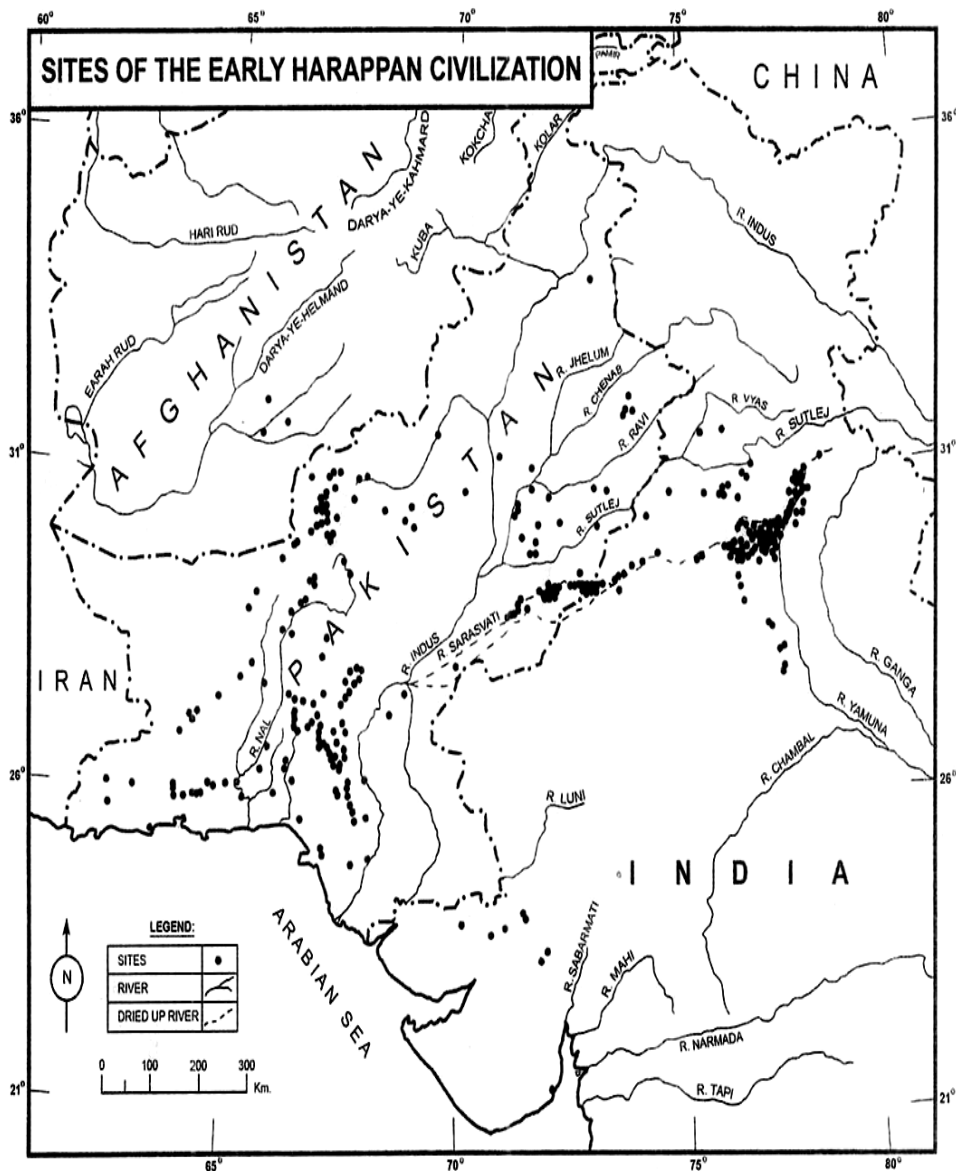
hborhood on the Bolan, a continuous occupation has been pieced together from the Neolithic to the Harappan times (Sharma 1979-80: 36-37). Sharma also believes that Early/Pre-Harappan sites in India are certainly much later than those on the lower Indus. This is clear not only from available C14 dates but also from the fact that the total nature of Indian Early/Pre-Harappan sites bears a distinct impact of the Mature Harappan culture in certain features (Sharma 1979-80: 36-37). These Early/ Pre-Harappan or Kalibangan I features have been found to extend as far east as Dhansa, near Nazafgarh in the Union Territory of Delhi. Early/Pre-Harappan pottery has been also been picked up from Naya Bans in Nakur Tehsil of district Saharanpur between the Ganga and the Yamuna (Shankar Nath 1979-80: 122-23).

G. L. Possehl (1999: 715) postulated required phases of the Early Harappan stage:

- (I) Kile Gul Mohammad-Damb Sadaat Phase in the Quetta Valley and the adjoining areas and part of Kachi plains.
- (II) Amri- Nal Phase in Sindh and Baluchistan with an infiltration into Kutch and Gujarat (143 sites).

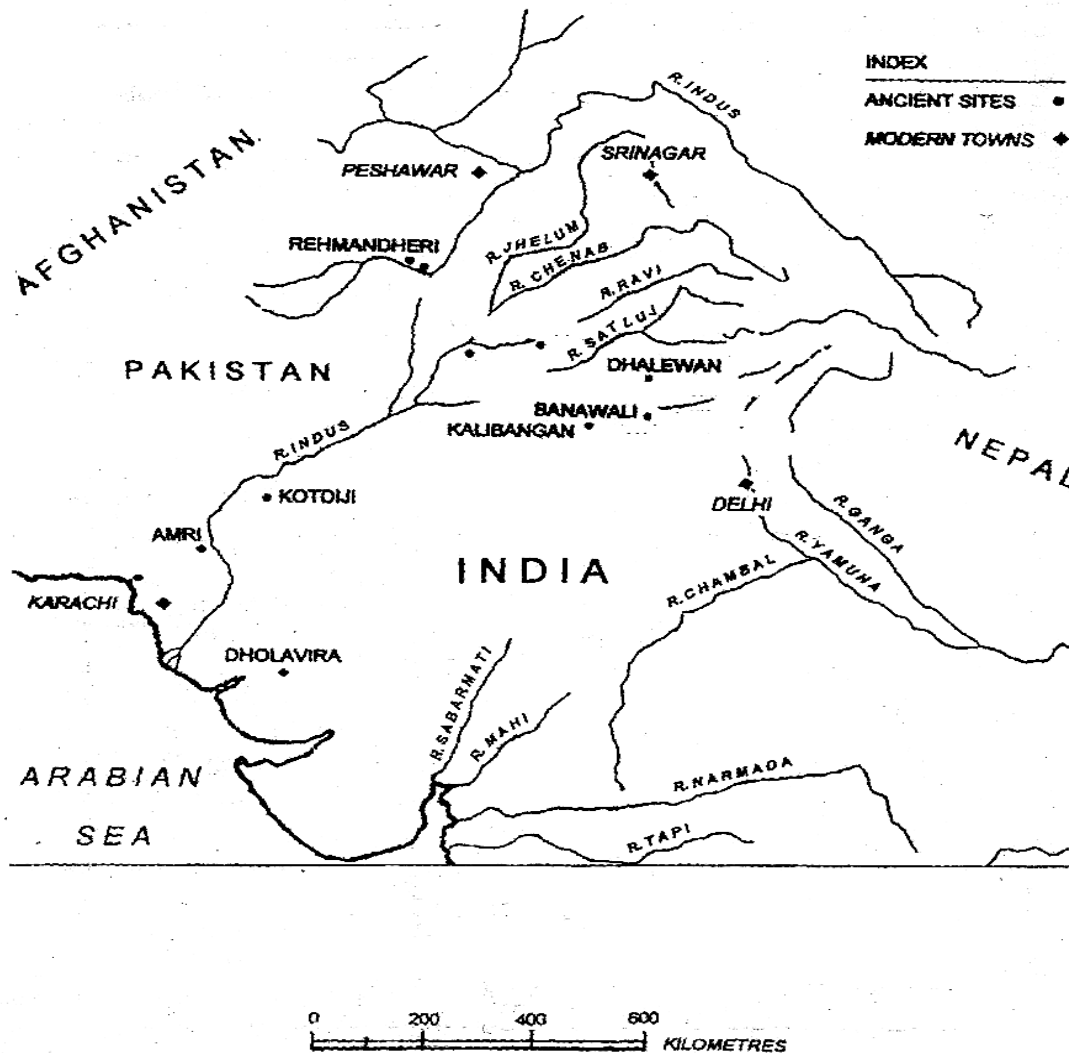
- (III) Kot Diji Phase with its extension in Sindh, Kohistan Derajat (west Punjab) and Cholistan. Regional variant in northern Baluchistan and Swat.
- (IV) Sothi-Siswal phase in western Rajasthan, Punjab, Haryana and Uttar Pradesh.

Of late, four areas have been identified in the Indo-Pakistan subcontinent wherein we find remains of early food producing Early Indus cultures. These areas are mainly in Baluchistan and Sindh in Pakistan, and in Rajasthan and Punjab-Haryana in India. The small communities living in these areas had flourished earlier than the Indus Valley Civilization or at times continued therein existence along with it, of course, adding to its genesis (Joshi 2008: 16). It is significant to note that the Early Harappan sites are available in the Greater Indus region of Gujarat, Punjab, Rajasthan and Haryana (Map 1).



Map 1: Sites of Early Harappan Culture

The fortifications were largely determined by the geography, climate and the availability of a particular type of building material coupled with the technological advancement and material prosperity of the inhabitants and their extension can be traced out in the map given below (Map 2). Evidence of the fortification in an Early Harappan culture comes from Kot Diji, Rahman Dheri, Tarkai Quila, Kohtras Buthi, Kalibangan, Banawali, Dhalewan and Bhirrana.



Map 2: Location of Early Harappan Forts- Kotdiji, Rehmandheri, Kalibangan, Banawali, Dhalewan, Dholavira

MATERIALS AND METHODS

There did exist in the Sarasvati - Ghaggar valley a culture, which had many features such as fortification that were carried over to the subsequent mature stage of the Harappan Culture. Even the concept of dividing the forts or settlement pattern into two parts, namely a 'citadel' and a 'lower town', so characteristic of the Mature Harappan period, had also come up at Banawali IC. The brick - ratio of the Early Harappan was 3:2:1 but the typically mature Harappan ratio of 4:2:1 also emerged soon. The Early

Harappans used both the sun – dried and kiln – fired bricks. The Early Harappan pottery is usually painted in two colours, viz. black and white. Towards the end of the Early Harappan a sturdy red ware with paintings in black had emerged. Some of the specific shapes, examples- dishes- and cups-on-stand, flanged jars, ring-stands, had also appeared and so some of the characteristically Mature Harappan painted designs: pipal-leaves, peacocks, hatched triangles, fish scales, etc. There is evidence of triangular terracotta cakes, which is also found in the Mature Harappan period. The discular beads having perforation along the diameter of silver from Kunal are exactly similar to the gold ones from the Mature Harappan period of Lothal.

There are also some noteworthy differences between the two periods. The Mature Harappan period stands out because of its use of weights and measures, seals and sealings and a system of writing, sculptural art in metal as well as stone.

Thus for understanding the forts and fortifications of the Harappan culture one has to look into the various aspects of the Early Harappan period. Was the former or firstly the original seat of power was Banawali, Early Harappan, period IC? Did the concept or origin of fortification comes from Early Harappan Banawali? It is significant that there is also evidence of moat and elaborate gateway system. About 20 km from Banawali, as crow flies is the site of Kunal, which has yielded two tiaras (Khatri and Acharya 1995: 86), and then one might argue that there were some people who were socially and politically at a much higher level than the rest. On the basis of spatial extent of the forts it seems that seat of power was Kot Diji, Kalibangan, Banawali and Dholavira in the south direction.

ARCHITECTUTAL FEATURES OF THE EARLY HARAPPAN FORTS

KOT DIJI

A Tell mile 43 kilometer east of Mohenjo-daro in West Pakistan excavated by Khan in 1955-7. It is an imposing site. Its location is important from strategic point of view as evidenced by the presence of a pre-modern Sindhi Fort or Kot that built on the high escarpment of the Rohri Hills, overlooking the ancient site (Possehl 1999: 636).

The most remarkable structural feature of the Early Harappan period was the defense wall of the citadel. Kot Diji fortified just after founding the settlement. This defense wall was of mud-bricks built on stone foundation laid with undressed limestone blocks brought from the nearby hills. The defense wall has stayed intact up to 1.65 m height when excavated, was provided with massive bastions at regular intervals. At it, widest point, the stonework of the surrounding wall is only 3 feet but most of the wall is only about one foot wide that is well oriented. This wall enclosed the entire settlement in its early stage, but later some of the inhabitants lived outside the walls that called the lower city (Khan 1965: 29-30).

RAHMAN DHERI

Durrani undertook the excavation at the site near Dera Ismail Khan in Pakistan. He found an evidence of a wall surrounding the settlement (Durani *et al.* 1991). Rahman Dheri is a large mound, which on the aerial photograph shows an extraordinary regularity of plan. It appears to be a well laid out oblong, surrounded by a massive wall and divided into two by a street running north-west to southeast. The settlement is approximately 550meter x 400 meter, providing an area of 22 meter, surrounded by mud bricks wall, which date to the first half of the fourth millennium B.C. (Allchin and Allchin 1997: 150).

TARKAI QILA

Mention, may also be made of the excavations of Tarakai Qila (Durrani 1984: 505-570). Tarkai Qila guards one of the entrances to Waziristan and is the western most limit of the proto or incipient urban phase of the Indus. Limited work exposed a stone and mud brick structure with possibility of fortification at the eastern edge of the settlement. The major mud brick fortification wall at the site is indicative of an incipient urbanism developing in this area (Allchin and Knox 1981).

KOHRAS BUTHI

N.G. Majumdar conducted a small clearance excavation at Kohras Buthi in Sindh Kohistan. The site revealed Early Harappan fortification. The site sits on a natural ridge (Majumdar 1934: 132-34; Lambrick 1964: 60-1). The outcrop raises thirty meters above the surrounding plain with a steep escarpment on the northern side. It slopes to the south and approached from this direction. Louis Flam (1981: 331-33) who has visited the site, as the settlement is approached from this direction one first encounters a small, low stone wall about one meter high. A second wall, now standing between 3 and 4 meters in height found slightly higher on the slope and is the principal wall protecting the settlement. The extremities of this wall, each turning north south, were integrated with the natural terrain in such a way as to protect the entire settled area (Possehl 1999: 716).

DHALEWAN

The ancient site at D halewan situated in Mansa district of Punjab. The excavation yielded Early Harappan fortified settlement. The mud brick fortification wall running towards north-west to southeast was about 2 meter wide (?) and 28 meter long had a rectangle projection of 8 meter x 6 meter at the north-western end. The settlement found in the western side of the fortification. The fortification of Period I B also used in Period I C (Madhu Bala and Kant 2000: 42-44).

BANAWALI

Banawali district Fatehabad (earlier Hissar), which lies on the right bank of the dried up Sarasvati. Bisht excavated the site and brought to light remains of an Early Harappan fortified settlement. This site has yielded clay model of a plough (*IAR* 1983-84:21), the only one of its kind discovered so far.

It was in sub period IB that the fortification wall was constructed. Even today, it stands to a height of about 2 meter, and has a basal width of 3.6 meter. Sub period IC yielded evidence, which the excavator Bisht entitles it to be called transitional between the Pre and Mature Harappan. Bisht points out that this sub period is to be noted for drastic and diagnostic change in architecture, planning, and antiquities. The entire settlement was planned and constructed. The dichotomous layout, which the Harappans adopted, was introduced during this sub period. The fortification of the previous period (sub period) was externally chiseled or partially sliced away and doubled in width for housing the citadel, and the lower town was laid out contiguously towards the east as well as the north, while the position in the west remained unresolved (*IAR* 1986-7: 33). Did major political and social changes occur during this stage?

Total width of the wall of Period I B found 3.60 meter at one place. The fortified wall of Period I B is running far about 230 meter of length beyond which it washed away making a large westward curve from its northern apex. Out of that length, an arm measuring 150 meter runs from the north-east to the south-west and from there, possibly making another apex lying in the west, it takes a south-westerly course for over 40 meter from the north-west to the south-east for about 40 meter. On the either side of the later-day citadel wall, revealed the structures of the Period I C. The fortification wall of these periods was making a larger and a more tortuous curve towards the east where it was most plausibly following the contours of the dune and thus making the outline of the enclosing fortification more likely an oblong oval having its longer axis from east to west (*Bisht* 1999: 15-6; Fig. 1a, 1b).

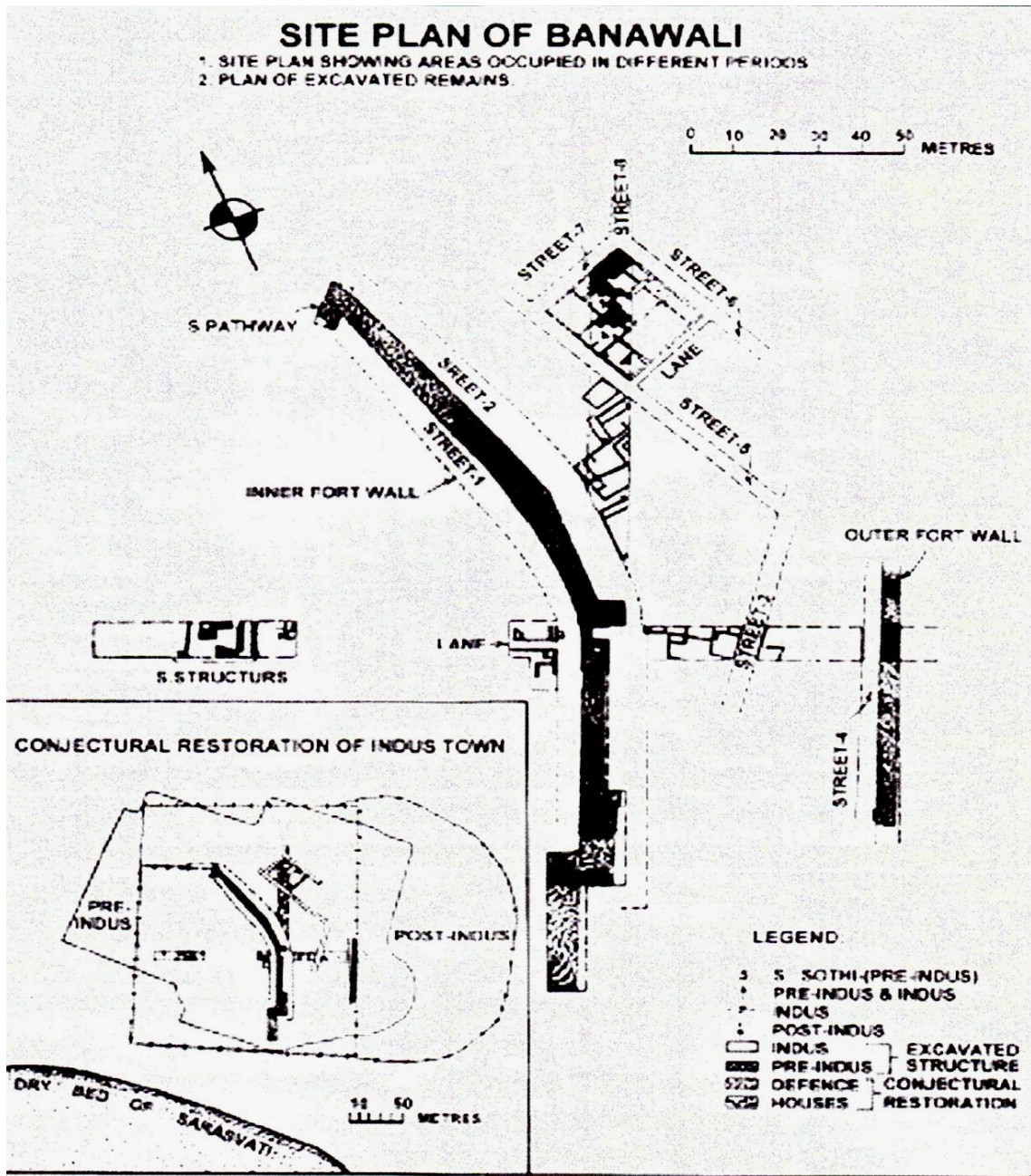


Fig. 1: Plan of excavated remains of Banawali Fort

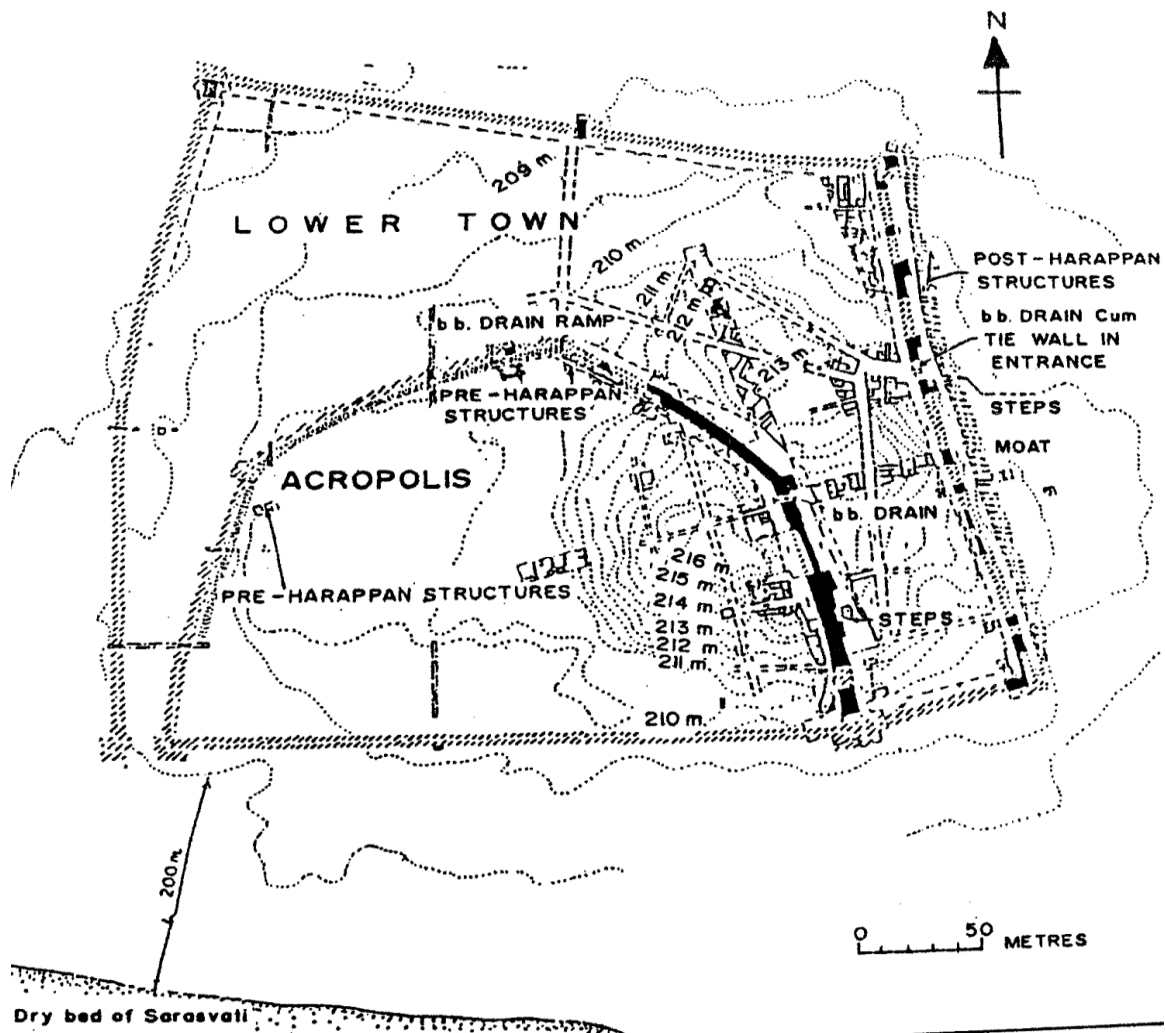


Fig. 1b: Banawali Excavations with Pre/ Early Harappan structures

BHIRRANA

Among the recently excavated sites of Early Harappan culture in Haryana, mention may be made of Bhirrana. The site is located on the left bank of the now dried up river Sarasvati, in the Fatehabad district of Haryana state. The mound measuring 150 meter north-south and 190 meter east-west, rises to a height of about 5.50 meter from the surrounding area of flat alluvial sollar plain with maximum habitation deposit at the site was 4.20 meter (Rao *et al.* 2003-04: 20). The excavation revealed three periods:

- Period I : Early Harappan
 Period II : Transitional
 Period II : Mature Harappan

The information regarding Early Harappan is inconclusive and sketchy due to shortage of operational area at lower levels as most of the exposed mature Harappan

structures overlie the Early Harappan deposit. However, in Period II, the entire site occupied and the town appears to have been fortified which needs to be confined in the coming season's work (Rao *et al.* 2003-04: 21).

KALIBANGAN

The site is located on the southern bank of the Ghaggar river which is now dry, but most have anciently been a substantial river in Sri Ganganagar district. The fortification walls of the Early Harappan settlement forms a rough parallelogram on plan, oriented more or less along the cardinal directions. Made of mud bricks (ratio 3:2:1), the eastern and western sides measured 250 meter \times 240 meter respectively. Off the shorter sides, the one on the south measured 170 meter and then turned to the northeast, making another 40 – 45 meter. It then took a further turn this time due east, joining the above-mentioned northern wall. In the northwestern part of the northern side, an entrance was located. Such an arrangement for locating the entrance is noteworthy. From any attack or even an unauthorized entry on the settlement, it could be protected from the top of the flanking walls, from two sides. It may also be stated that this entrance faced the river and was thus more vulnerable. Two structural sub periods were noted. The first phase of the wall was made of mud bricks in the ratio of 3:2:1 laid to a thickness of 1.90 meter. A second phase of construction brought the thickness of this fortification up to 3 or 4 meter, varying from place to place. The inner and outer faces of the fortifications were plastered wall as seen on the site plan is cunningly designed for the protection of vulnerable point (Lal 1979: 69).

As the fortification walls have been eroded at places, it is difficult to say anything about other entrances, which, one guesses, would have existed (Lal 1998: 12).

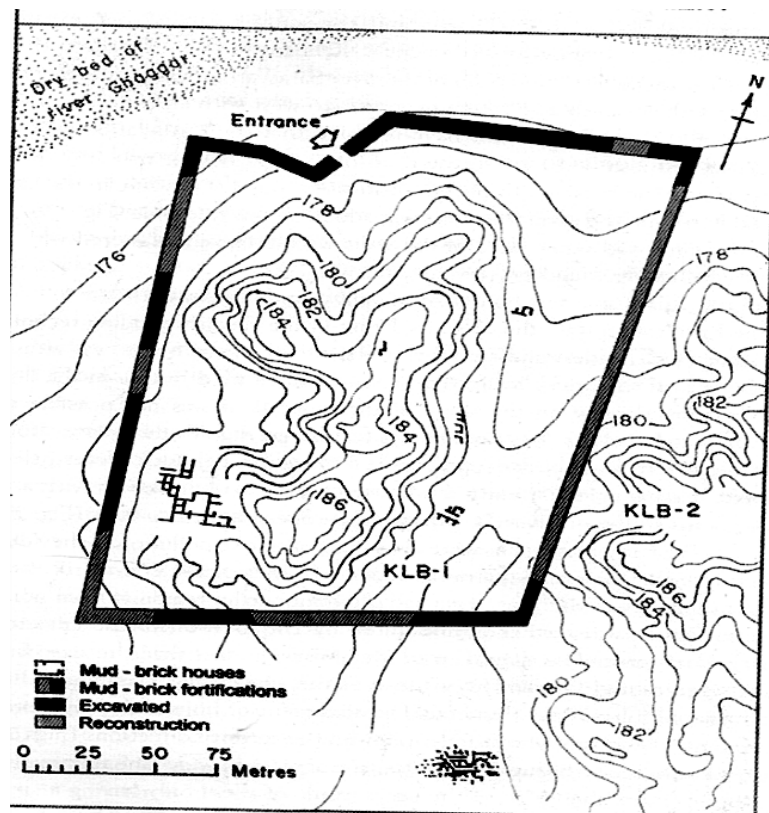


Fig.2: Plan of Early Harappan Kalibangan fort

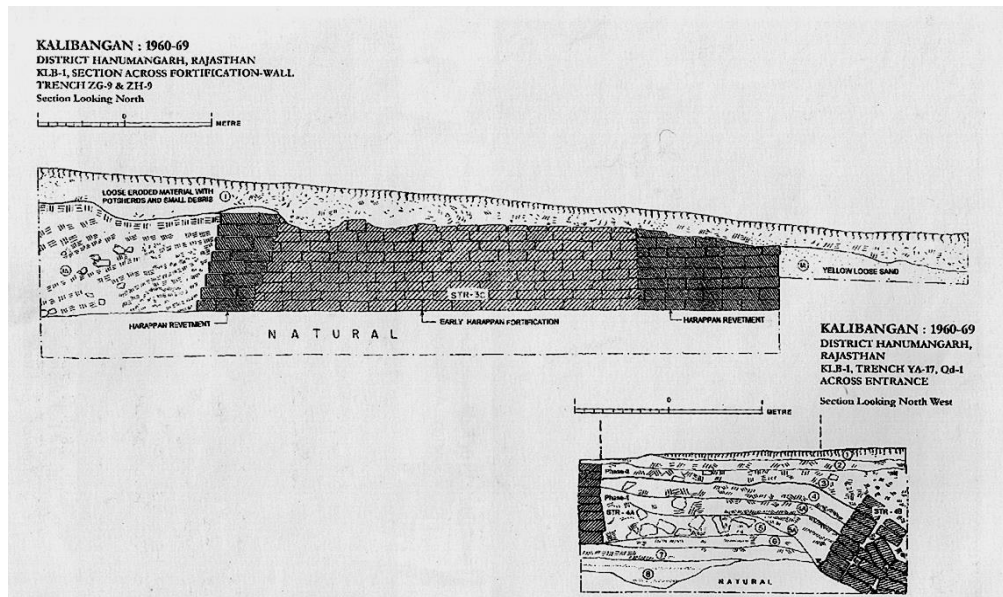


Fig.3: Kalibangan – section across fortification wall and entrance

DHOLAVIRA

The ancient site of Dholavira in *taluka* Bhachau of district Kaccha in Gujarat was discovered by Joshi in 1967-68, and it has excavated by Bisht since 1990. The excavations have revealed seven cultural stages of which stage I and stage II belongs to Early Harappan.

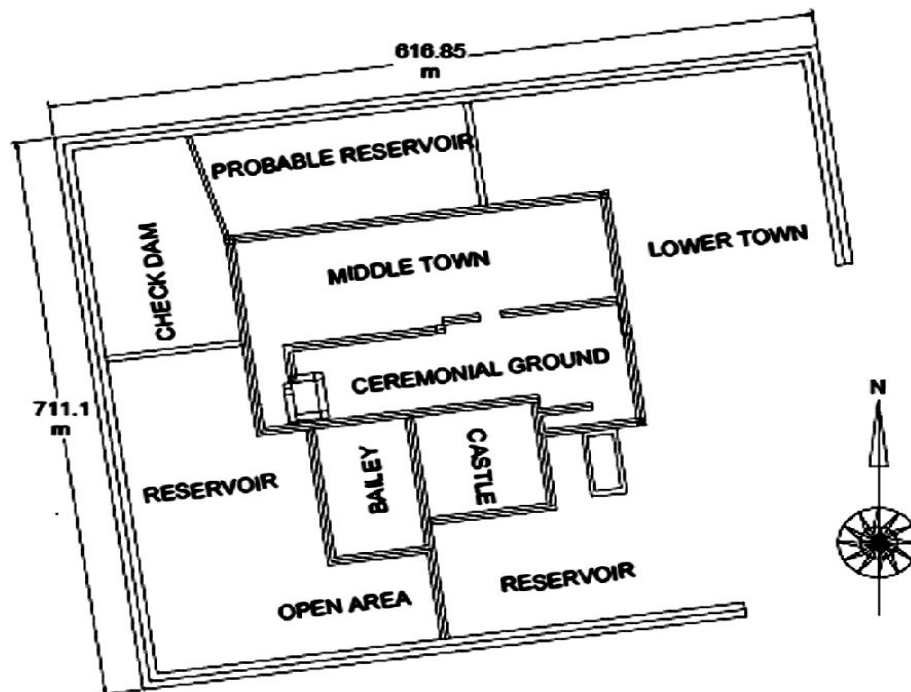


Fig.4: Plan of Dholavira Fort

Stage I starts right from the virgin ground. The first settlers came well – equipped with advanced ceramic techniques, copper working, lithic industry, bead – making, stone

– dressing and with certain principles of planning and architecture. They constructed a formidable fortification (as thick as 11 meter at the base) around the settlement made primarily of stone-rubble with occasional use of mud bricks (Bisht 1998-99: 14-37).

ANTIQUITY OF FORTS IN THE HARAPPAN CULTURE

A survey of the origins and development of the fortifications of the Harappan Culture amply demonstrates that the antiquity of fortifications in Indian subcontinent can be traced from an Early/Pre Harappan level of Kot Diji, Kohtras Bhuti, Kalibangan, Dhalewan, Banawali and Bhirrana. At Kot Diji, the Kot Diji culture, or the early level on the citadel mound is dated to 3370 BCE and 3300 BCE (Gupta 1999: 293). It has to be noted that an Early Harappans are the contributors of the fortification of the Harappan towns dated circa. 5000-2600 BCE (Possehl, 1999, 2002; Kenoyer 1991, 1998; Wright 2010).

IDEOLOGY AND FURTHER LITERARY CORROBORATION

The word *pur* occurs very frequently in the *Rigveda* and conveys the sense of the fortified town. Sometimes it is stated to have had even a hundred walls (*shatabhuji*), ramparts of hardened earth with palisades and a ditch (Das 1921: 187). The occurrence of certain passages in the *Rigveda* shows the presence of monumental architecture for the royalty during the Vedic period. The *Pur* seems to have been an earth-work fortification, protected by a palisade or stone wall. The word *Dehi* occurs in two passages of the *Rigveda* meaning defenses thrown up against an enemy, apparently earth works or dikes (Wilson 1977: I, 379). The word *Pur* conveys the sense of a fortified town.

Proto Historic Cultures had long passed through these stages and was dealing with kings and kingdoms, was having an organized administrative machinery, had fortified towns and was engaged in both land and sea trade (Lal 1997 : 285). Kunal, which has yielded two tiaras (Khatri and Acharya 1995: 86), and then one might argue that there were some people who were socially and politically at a much higher level than the rest as mentioned above.

Further we also see that *Ramayana*, *Mahabharata*, Jain, Buddhist, and other Early Historical texts also contain abundant references of fortifications. This practice of fortification goes on to the later periods which can be correlated with *Jatakas*, *Puranas* and the Early Medieval literatures such as *Manasara-Silpasastra*, *Aprajitpricha*, *Mayamata* (9th-12th CE) and *Samrangana-Sutradhar* etc. Literary and Archaeologically, we can see that a fortification in art history reaches to its perfection in the Early Medieval Period which was the legacy of the Early Harappan Culture.

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