The Decline of Harappan Civilization

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ABSTRACT

As pointed out by N. G. Majumdar in 1934, a late phase of Indus civilization is illustrated by pottery discovered at the upper levels of Jhukar and Mohenjo-daro. However, it was the excavation at Rangpur which revealed in stratification a general decline in the prosperity of the Harappan culture. The cultural gamut of the nuclear region of the Indus-Sarasvati divide, when compared internally, revealed regional variations conforming to devolutionary tendencies especially in the peripheral region of north and western India. A large number of sites, now loosely termed as 'Late Harappan/Post-urban', have been discovered. These sites, which formed the disrupted terminal phases of the culture, lost their status as Harappan. They no doubt yielded distinctive Harappan pottery, antiquities and remnants of some architectural forms, but neither town planning nor any economic and cultural nucleus. The script also disappeared. In this paper, an attempt is made with the survey of some of these excavated sites and other exploratory field-data noticed in the Indo-Pak subcontinent, to understand the complex issue of Harappan decline and its legacy.

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I. INTRODUCTION

It was pointed out by A. Ghosh (1982) that the Harappan de-urbanization involved a decrease in settlement size and population, in surplus food production, in cessation of construction of monumental buildings, in use of writing and in long distance trade.

The reversal of a few abstract criteria of urbanization, as laid down by Childe (1950) and Adams (1966) are equally applicable to the issue of decline of Harappan civilization. To quote Dales, ‘With the decline of this civilization, the sophisticated Harappan traits were watered down by mingling with impoverished local cultures until what was once distinctively Harappan was diluted to the point of non-existence’ (1966). In fact, the devolution of a culture appears to be the outcome of economic decline which produces cultural transformation and changes the cultural interaction of the society (Dikshit 1979).

Excavations, particularly at Mehrgarh, have established that Baluchistan was the nuclear region. However, the subsequent excavations at Bhirrana, and other excavations in Sarasvati valley in India (Gupta 1996) and Hakra valley in Pakistan (Mughal 1992a) have added a new dimension to its origin.

The Harappan sites covered an area of about 480,000 sq km (but not at one time) from the Himalayas in the north to Godavari in the south, and from Indus river valley in the west to the plains of Yamuna river in the Gangetic valley. The Harappan civilization reached maturity during the period c. 2600-1900 BC (Map 1). The Late Harappan culture, or decline, marked the end of the urban phenomenon, i.e., the idea of town-planning, construction of monumental buildings, writing, and the use of weights and measures (Map 2-4).
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EXTENT OF THE HARAPPAN CIVILIZATION

Map 1: Extent of the Harappan Civilisation
Map 2 Sites of the Early Harappan Civilization
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To understand the question of the Late Harappan culture and decentralization of the Harappan civilization, most scholars have tried to locate the answer in the setting in of urban decline, and control over long-distance trade. This was accompanied by a decline of the surrounding hinterland that produced and supported the urban centres.

Jim Shaffer is of the view that while urban centres may have ceased to exist in Sindh, it is impossible to assert that this was the case in the entire area covered by the Late Harappan culture (Shaffer 1982). Marshall (1931) was the first to have discussed the decline in his volume on Indus civilization.

Archaeologists generally agree that definite signs of decline in urban character of Harappan civilization became visible after 2000 BC. Harappa, Mohenjo-daro, Lothal, Surkotada, etc., witnessed the loss of strict discipline in civic construction.

Houses, drains, lanes and roads, which had been maintained with meticulous care for centuries, were now allowed to encroach upon each other's boundaries. The industrial sectors were deserted and small workshops were widely scattered. The granaries, warehouses, the great bath, the pillared hall, etc., which were meant to serve the public at large, were found to be completely deserted.

Pottery also shows a marked change in the quality of manufacture and variety of decorations, in painting as well in incised patterns. New houses were built, very often from the debris of older buildings. There are hundreds of other minor and major details of the changing scenario in the old cities which clearly established the fact that the end of the Harappan civilization was not sudden. The excavations of a number of Harappan sites including smaller sites, like Alamgirpur and Hulas in the upper doab show that some specialized industries like faience, steatite, carnelian, etc., continued to flourish even in times of decline.

The datum line of 2000 BC does not mean that each and every Harappan township declined in 1900 BC but that definite signs of decline were noticeable by 1700 BC. However, at several other sites, like Banawali, Balu and Hulas, the new phase is also marked by a new style in pot-making, pot-decoration, etc. The situation appears to be extremely complex and calls for a detailed study so that each site can be treated as an autonomous entity as well as an example of a process of culture-change.

The decline of the Harappan civilization was slow and gradual in every region but the transformation from the Late Mature phase to the Late phase differs from region to region. Our analytical study has shown that difference in the form depended upon the nature of the site, and had two different components: (a) the role the site played in long-distance trade, and (b) the role of the site in agricultural processes.

In the first category are the sites which were large and established along the coastal region of Gujarat and Sindh. The sites involved in the agricultural process are hinterland sites, which are small and supported the coastal sites in mopping up the materials for export.

Large fortifications and planned cities were by and large absent but small and large houses existed at Lothal, Desalpur, Surkotada, Dholavira, Kuntasi, from where trade and commerce could be carried on a small scale. They dwindled into small settlements resembling the Neolithic self-sufficient agricultural sites.
The continuance of certain crafts of carnelian beads, faience beads or shell objects only show that they belonged to the cultural milieu, which had developed during the mature phase of the Harappan civilization. The form had completely changed because the supply of raw material was limited.

Mature Harappan phase is often identified with a phase of culture in which industry entered into long-distance trade, particularly with the west Asian regions. However, it must be clearly understood that ‘foreign’ trade cannot be effective unless it is backed by vibrant internal trade. The absence of inscribed seals and general scarcity of copper, bronze and other raw materials, such as chert, lapis lazuli and gold in the Late Harappan period shows that there was a severe setback to internal and external trade.

The excavation at Kuntasi revealed a fortified industrial establishment with large storage areas and workshops. It has two periods: (a) Mature phase (2400-1900 BC) and (b) the Late Harappan (1900-1700 BC).

In the absence of some fossil artefacts the excavator is of opinion that the so-called uniformity of the Harappan civilization with a strong degree of regimentation is a myth (Dhavalikar et al. 1996). Marcia Fentress proposed that there were vital differences even between Harappa and Mohenjo-daro (1984).

Dholavira in the Kachchh area of Gujarat revealed I-IV stages of growth and V-VII stages of decline of the Harappa culture. It became totally deurbanized in last stage (Bisht 1997).

Different scholars attempted a reappraisal of the Late Harappan cultures and timings of their cultural disintegration in three regions, viz., (a) Punjab and Sindh of Pakistan (b) contiguous areas in India, i.e., Punjab, Haryana and Uttar Pradesh and (c) Gujarat (Allchin and Allchin 1982; Shaffer 1982; Dikshit 1967a, 1982, 1984, 1985; Kenoyer 1989; Mughal 1989; Rao 1991; Misra 1994; Possehl 1997; Lal 1997). They also tried to analyse the causes of change in economy, trade, food, pottery, minor antiquities, religion and burial practices.

The reason for the decline of Harappan civilization is still vague. Many theories such as invasion, flooding, stagnation of water, changes in river courses, climatic changes, etc., have been advanced by Wheeler, Raikes and Dales. However, extensive hydrological studies have established that the river Indus and Sarasvati changed their courses several times, maybe around 1900 BC. The cause of this was the loss of two of its major tributaries, the Sutlej and the Yamuna – the first to the Indus and other to the Ganga (Pl. 11A). This calamity must have brought out large scale changes or disruption in the internal trade routes connecting the hinterland with the coast.

The long-distance trade by land route and through river Indus and its tributaries connected to Indian Ocean was affected because of a tilt in the landmass in the sub-Himalayan region caused by an earthquake. Incidentally, hydrological changes made the river Sarasvati dry and shifted Sutlej’s course, once a tributary of the Sarasvati-Ghaggar, to discharge its water in the Indus in around 2000-1700 BC.

It may be noted that Sarasvati, which comes out from Adi Badri in the Siwalik, used to discharge its water in Indian Ocean. The Landsat imagery which has a bearing on this issue, specially the present river systems of the Sutlej-Yamuna Divide, has provided evidence of tectonic uplift which forced the Sutlej to abandon its old channel and start flowing westward through a tributary
or river Beas (Pal et al. 1984). There is a distinct palaeo-channel suggesting that the Sutlej and also Sarasvati, a mighty river, flowed through the Nara directly into the Rann of Kachchh (Sharma et al. 2005-06).

It is suspected that the decline of the Harappan civilization was, at least, partly due to the decline in the long distance trade activities, around 1800 BC, with Mesopotamia and the Persian Gulf (Map 5).

Access to the raw materials used in the production of diverse artefacts and the exchange systems became scarce on the north Indian sites in eastern Punjab, Haryana and western Uttar Pradesh as the supply links with Afghanistan and Iran became non-existent, which also affected the regional interactions. The raw materials are steatite, alabaster, marine shells, lapis lazuli, turquoise, carnelian, chalcedony, jasper, flint/chert, schist, shale, basalt, lead, copper/bronze, silver and gold (Lahiri 1992).

Map 5 Routes in and around the Greater Indus region (after Possehl 1999)
Map 6 Harappans in northern India
2. FIELD DATA

A. Punjab

Post Independence, when all the major Harappan sites were located in Pakistan, the Indian archaeologists explored the contiguous area of Punjab and Rajasthan. The sites of Kotla Nihang Khan, Ropar, Dher Majra, Bara etc. were explored and excavated (Map 6).

i. Ropar

Excavation at Ropar, on the river Sutlej during 1953 to 1955, revealed a continuous succession of human occupation of six periods from the Harappans to the much later periods. Period I (2000-1400 BC) is assigned as Harappan and the successive Period II (1000-700 BC) is PGW culture (Fig. 1).

The Harappans were the first settlers of Ropar and this period is divided into three phases. Phase IA is dominated by pre-Harappan wares including some other cognate wares. In Phase IB, some mixed material of Phase IA and Bara ware was noticed. The Mature Harappan ware was dominated by sturdy red ware with typical painted designs (Pl. 11B). The dish-on-stand of Ropar has a very long drooping rim which is characteristic of this region.

![Cultural sequence of Ropar (after Sharma 1953)](image)

The chronological position of Harappa vis-à-vis Bara is difficult to explain although the presence of Bara ware is in small percentage. Other antiquities of Mature Harappans, namely beads and bangles of faience, triangular terracotta cakes and chert blades were noticed (Pl. 11C).

In Period IC, a single Harappan seal which bears three familiar symbols in obverse and two concentric circles in the reverse without any holding device was found (Pl. 11D). Another burnt clay lump with a hole bears impressions of three typical seals with bull motif and a legend in the familiar Harappan script. Graffiti on pottery in Harappan script was also noticed.

A cemetery away from the habitation area revealed burials with typical Harappan pots including personal ornaments such as bangles of faience or shell, beads of faience and semi-precious stones and ring of copper. A copper ring was also found on the middle finger of the right hand of a skeleton. No house plans or layouts of the township were encountered.

The site was reoccupied by the PGW users and is devoid of any structural remains and antiquities (IAR 1953-54: 6-7).
ii. Bara

Bara, in Rupnagar district, Punjab, also shows gap between the end of the Harappan culture and the arrival of the PGW people, which was evident in Ropar. Bara was still occupied when Ropar had been deserted by the Harappans (IAR 1954-55: 10-11).

The site lies on the left bank of a monsoon rivulet named Budki Nadi. Bara pottery has distinctive characteristics. These are made of well-levigated, fine to medium grained clay, wheel turned with a self-slip or an applied slip, dull brown in colour. Designs are painted in dull chocolate or black.

Bara pottery has parallels with the Harappan pottery in thickness and shapes, i.e., dish-on-stand, basin or large bowl with flaring sides and a variety of rims including the undercut types. Among the Mature Harappan shapes, absent in the Bara culture are Indus goblet with pointed base, shallow flat dish with flaring sides, wide mouthed large storage jar with concave profile above the base, perforated jar, etc. (Pl. 14A-C). Houses were made of kankar stone and mud-bricks and the evidence of burnt clay lumps with reed impression is indicative of wattle and daub huts.

iii. Dher Majra

Dher Majra is located in the Sirsa valley, about 11 km north of Ropar and was excavated by Prufer in 1951. Excavation at the site has revealed two cultural periods, of which the first belongs to Mature Harappan phase and the second phase is characterized by a composite ceramic industry which show
affinities with the Harappa, Cemetery-H and other red wares (Fig. 2). All these are comparable with the Late Harappan ceramic complexes of Mitathal, Bara etc. The structural evidences of the Phase I are a mud rampart at least on the side of the river whereas Late Harappan habitation deposit in the Phase II covered the ruins of the earlier habitation and the defences. The antiquities are objects of faience, clay, bone and stone, copper, bronze, terracotta figurines, chert blades, weights, beads of semi-precious stones, stone querns and pestles (Prufer 1951).

iv. Sanghol

The ancient mound of Sanghol in Ludhiana district, Punjab, is about 25 m high and covers an area of roughly 300 sq m and lies close to a now dry water course, possibly an ancient bed of the Sutlej or one of its defunct tributaries.

Excavations at the site by S. S. Talwar and R. S. Bisht during 1968 to 1973 revealed six cultural periods of which Period I belongs to the Late Harappan culture. Mud and mud-brick

Fig 4 Plan of structures of Phase 3 of Period IB at Sanghol (after Sharma and Sharma 1982)
structures, circular corn-bins and hearths, or tandoors, were found in this period. Other structures were of rammed earth. The fabric and form of the pottery shows striking similarities with the pottery from Bara (Fig. 3, Pl. 12A-B). It is bright to buff in colour and has fine slip and the shapes include dish-on-stand, dish, bowl, beaker, vases of medium to small sizes, large storage jar, flat dish with short sides and roughened base and hollow ring-stands. Two copper chisels of rectangular cross-section and slightly splayed edge, few agate inlays, heart-shaped bangles and ear-rings of red and azure-green faience were also reported (IAR 1969-70: 31-32). Period II is characterized by the occurrences of PGW and plain grey, black-slipped and associated red wares (IAR 1968-69: 25-26).

In the excavation at Sanghol, between 1968 and 1973, no overlap of Harappan culture with PGW was noticed. However, when excavations were begun anew in 1973, G. B. Sharma noticed an overlap of Late Harappan with the PGW in Period IC. A baked brick
was also found in this deposit. In Period IB, which is divided into six phases, Phases III and IV have many mud-walled structures with clay-lined oblong kilns or hearths including corn-bins (Figs. 4-5). Plans of structures revealed rooms which extended to east as well as to the west. These small kilns were found at several places in structural Phases II, III and IV. In some of these kilns, pieces of faience bangles were found, thereby assuming that beads, bangles and other small objects were being fired in these kilns. Ninety-two micro gold beads, unfinished agate beads, a charred weight and copper chisels were found in one of the rooms of Phase IV (Sharma and Sharma 1982).

In (1973-77), when J. P. Joshi was exploring and excavating in Punjab and Haryana at Bhagwanpura, Dadheri, Nagar, Katpalon and Manda (J&K), he noticed an overlap of PGW with Late Harappan culture (Joshi 1978).

v. Katpalon

The excavations at Katpalon in Punjab have shed light on the relationship between the Harappan and PGW culture. The site yielded a sequence of three cultures in a deposit of 6 m. In Period I, PGW culture has been found interlocked with the Late Harappan. An oval structure in dilapidated condition was recovered. The other antiquities include copper and antimony rods, terracotta beads and wheels. This period was followed, after a break, by Period II which is assigned to the Kushan period (Joshi and Bala 1982: 193).

vi. Nagar

At Nagar, Joshi noticed in the lowest Period I, a PGW horizon which according to him, has a sprinkling of Late Harappan sturdy red ware indicating interlocking of two cultures. After a gap, it was occupied by Kushans. In Period I, antiquities included copper objects, bone stylus, terracotta ear ornaments and animal figures besides beads and bangles (Pl. 12C). In one of the trenches by the side of the post-holes of the huts, some oval structures were also found (Joshi 1993).

vii. Dadheri

At Dadheri, in a 6 m cultural deposit, in Period IA, Late Harappan culture was noticed which was closely followed by sub-Period IB where PGW and Late Harappan pottery was found together. In Period IA, evidence of mud walled houses and huts as found elsewhere like Sanghol, etc., were also noticed (Pl. 13A). Other antiquities included copper objects, terracotta beads, wheels, round cakes, faience bangles and terracotta painted bull (Fig. 6). A huge storage jar with Late Harappan painted and incised wavy lines of pre-Harappan tradition was noticed in situ (Pl. 13B) (Joshi 1993).

The sites of Katpalon and Nagar were explored by the author and H. K. Narain (JAR 1963-64: 28). This exploration along the right bank of river Sutlej in Punjab was published in 1967 (Dikshit 1967b: 561-68).
viii. Rohira

Rohira in Sangrur district of Punjab was explored in 1965 by the author (IAR 1964-65: 75) and later on it was put to excavation by the State Directorate of Archaeology, Punjab which revealed a sequence of six cultural periods (Sharma and Kumar 1980-81: 125-127). Period I is divided into three phases namely, IA, i.e., pre-Harappan; IB, i.e., Mature Harappan and IC, i.e., Late Harappan (identified with Bara) (Fig. 7).

The pottery of Phase IC represented thick well-baked pots with characteristic incised design on cooking vessels and water jars. Antiquities included faience bangles and beads and also agate beads. This period was succeeded by PGW, black-slipped grey ware and associated red ware. In the stratigraphy, there is a clear gap between these two periods.

B. Jammu and Kashmir

i. Manda

The site is located on the bank of river Chenab, near Akhnoor, in the state of Jammu and Kashmir. In a deposit of 9.2 m, a three-fold sequence of culture with sub-periods in earliest period of occupation were noticed.
In Period IA, according to excavator, pre-Harappan red ware, whose percentage in comparison to Mature Harappan is between 15-25 percent (perforated jar absent), along with other antiquities such as bone arrowheads, terracotta cakes, potsherds with Harappan graffiti, chert blades and an unfinished seal were noticed. In sub-Period IB, Harappan red ware and grey ware associated with PGW were noticed. His interpretation is that this grey ware belongs to the PGW family as there is an interlocking of these two cultures (Joshi 1993).

C. Haryana

The explorations and excavations in Haryana revealed extension of Harappa culture from Rajasthan as well as from Punjab (Map 7). Banawali, Balu and Rakhigarhi provided a complete sequence
of the Harappans' rise and fall in this region. A few sites which witnessed Harappan decline are mentioned below.

i. Mitathal

Mitathal lies at a distance of 10 km to the north-west of Bhiwani, a district headquarter of Haryana. This site accidentally came to be known with the discovery of two copper harpoons of Copper-board vintage. The site was first excavated by the Panjab University in 1968 (Fig. 8). The excavation revealed Period I represented by fabrics A and C of Kalibangan I tradition whereas Period II is divided into two phases. Period IIA is characterized by the typical Harappan ceramic industry, architecture, household objects and ornaments (Bhan 1975: 6).

Phase IIB is a continuation of the Mature tradition, however in a degenerate form (Figs. 9-10). The pottery is red ware and indicates general degenerating nature in terms of manufacture, treatment and decorations of pot (Bhan 1975: 8). The mud-brick structures are rare and the beads are not evenly finished. The terracotta biconical variety of beads shows typological evolution, whereas
cart-wheels in this phase are comparatively thicker and smaller in size. The terracotta cakes were round and of oblong varieties and the script can be seen in form of graffiti. The Mature stage of Harappan culture degenerates slowly in Haryana and is seen assimilated with the later traditions.

ii. Daulatpur

Excavations at the site of Daulatpur (JAR 1968-69: 8-9), situated on the bank of the Chautang river, revealed a succession of four cultural layers, the earliest being the Late Harappan and the latest being the Early Medieval period. Period I (Harappan) is marked by the occurrence of thick sturdy ware including the painted variety showing Harappan forms such as the dish-on-stand and jar.

Fig 8 Mitathal, District Bhiwani: 1968, cutting MTL 1 (after Suraj Bhan 1975)
Evolved shapes, inferior treatment of the surface and the simpler and fewer decorations indicate a decadent stage of the Harappan culture. The pottery has mixed assemblage of Early Harappan, Mature Harappan and Late Harappan having Cemetery-H type and compares to Bara. Some noteworthy objects of this period are grinding stones, bangles of terracotta, faience and copper or bronze objects, beads of semi-precious stones and charred grains.

The excavations revealed five structural phases with post-holes, wall of mud-bricks and ill-fired bricks of various sizes. This period is succeeded by the PGW culture and the antiquities include antimony rod, bone pins and stone grinders, etc. To ascertain that there is no overlap of the Harappan with PGW culture, the site was again excavated during 1976-78.

iii. Bhagwanpura

The site of Bhagwanpura on the bank of Sarasvati revealed two stages in the occupational deposit of 2.7 m. The lowest stage (IA) speaks of the absence of beakers or perforated jars from the Harappan material (Figs. 11-12). In this stage, a solid mud platform was raised as protective measure against floods. This material continues in the next stage (IB) with PGW culture (Figs. 13-16). A mud walled house having 13 rooms with a corridor in between and a courtyard was noticed on the eastern side.
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Fig 11 & 12 Pottery of Period IA, Bhagwanpura (after Joshi 1993)

Fig 13 & 14 Pottery of Period IB, Bhagwanpura (after Joshi 1993)
Fig 15 & 16 Painted red ware, Period IA and IB Bhagwanpura (after Joshi 1993)

Fig 17 Culture complex of Bhagwanpura
of the habitation (Pl. 14D). The other antiquities are terracotta bulls, cart wheels with central hub, bangles, copper rods and pins, faience beads and bangles and beads of semi-precious stones and bone pins (Fig. 17).

At Bhagwanpura, two skeletons lying in north-south orientation with heads towards north, with no funerary goods, were found from the habitation area of Period IB (Pl. 14E). The habitation was affected by the recurring floods, earlier in the times of Period IA and second one when the PGW people were living with the Late Harappans in Period IB (Joshi 1993). There is a possibility that these floods may have disturbed the stratigraphy of the site.

In connection with burials inside habitation, it may be pointed out that at Ropar, Chandigarh and recently excavated Farmana (Shinde et al. 2010) diagnostic Harappan traits survived, as also the custom of a separate cemetery away from the habitation area. Even at Sanauli, as mentioned above, the cemetery survived separately from habitation area. This gives rise to suggest that the Harappans at Bhagwanpura were perhaps diluted to the point of non-existence. If the position of these skeletons at Bhagwanpura in habitational area is accepted, then the question arises that were these people of Bhagwanpura IB of Harappan stock or not, because this change must have occurred due to radically different cultural values. The users of PGW who overlapped with them, according to the excavator, also never buried their dead in the habitational area. It was only with the advent of the Muslim period that burials took place inside the house in some cases.

iv. Mirzapur

Excavations at Mirzapur, a small mound in Kurukshetra district revealed a Late Harappan phase of 1 to 1.5 m. deposit. The site has yielded mud-brick structures of three phases, evidence of a fireplace, a refuse pit, an oven and corn-bin inside a room.

The other antiquities include a large number of beads made of semi-precious stones such as agate, crystal, jasper and carnelian and a few steatite disc beads, terracotta bangles and beads, marbles, toy cart frames and wheels, and cakes, both circular and triangular. Plain and painted bull figurines, a painted curved figurine probably of a snake, faience bangles and balls with incised decorations, beads, and a beautiful figurine of stag with a horizontal hole, etc., were also found.

The pottery is characterized by sturdy red ware, painted in light black colour with geometric and linear designs and plant, fish and bird motifs. Classical Mature Harappan shapes such as the perforated jar and beakers are totally absent at the site and the goblet is very rare. The site remained unoccupied after the Late Harappans left and was again reoccupied during the Early Historical period (Singh 1989: 289).

v. Karsola

The site of Karsola in Julana tehsil of Jind district lies in the catchment area of river Chautang. It has revealed in excavations a cultural sequence of three periods; namely the Late Harappan, PGW and Kushan. The evidence of Kushan occupation has been removed by the villagers.
The aim of the excavation was to establish whether the Late Harappans continued to exist up till the beginning of thirteenth century BC or the antiquity of PGW could be pushed back to around 1500 BC.

A total of about twenty-five trenches of 5 sq m each were laid on the entire mound. Out of the 3 m cultural deposit, the lowest one belonged to Late Harappan. The pottery is thick painted red ware (Pl. 15A-B). It has revealed mud structure along with hearths, kilns and furnaces from the deposit of Layers 3 to 6 (Fig. 18). Amongst the antiquities which are very few, mention must be made of solitary beads of agate and carnelian including terracotta, faience bangles and articles of shell. After the end of the Harappan period, the users of the PGW levelled the site (Layer 2) and continued to live there for some time (personal communication from V. S. Shinde and P. B. S. Senger 2011).

Fig 18 Section of LY7, illustrating the stratigraphic sequence, Karsola

vi. Muhammad Nagar

In the excavations carried out by B. R. Mani at Muhammad Nagar, Gurgaon district, Haryana, in 1997-98, a 35 cm thick deposit over the kankar-mixed natural soil with ground water yielded pre-PGW deposit having sturdy red ware sherdys, comparable to the pottery assemblage from Siswal and representing Period I of the site which could be assigned to the Late Harappan period (IAR 1997-98: 40-54). This period was succeeded by Period II having grey ware and some sherdys of PGW and associated red ware.

In another trench, this deposit also yielded black-and-red ware and grey ware. Iron objects were also found. The succeeding period belongs to Northern Black Polished Ware (NBPW).
D. Delhi

i. Bhorgarh

The Directorate of Archaeology, Government of Delhi, took up the excavations at Bhorgarh from 1992-94 and yielded a four-fold cultural sequence from the Late Harappan period up to the medieval times.

Period I, associated with Late Harappa, revealed thick red ware pottery. In the excavation, two graves were encountered. The first grave was an extended burial with three pots placed behind the head, whereas the other grave, also an extended burial, did not contain any burial goods. Period I was succeeded by PGW suggesting that people were living here in circular huts supported by wooden posts. There was no cultural overlap (Babu 1994-95).

E. Western Uttar Pradesh

Since the discovery of Alamgirpur in 1958, a systematic survey revealed a cluster of Harappan sites which were confined only around the tributaries of Yamuna. Most of these sites, located at a distance of about 8 to 12 km confirm the pattern of linear or nucleated settlements, as noticed in Gujarat and Punjab. A detailed study of these excavated sites throws light on the Harappan culture complex of this extended region (Map 8).

i. Hulas

Hulas is a type site of Harappa culture in upper Gangetic doab located on Katha nala, one of the tributaries of the river Yamuna, an extension of Indus system of rivers till its diversion due to tectonic movement in Himalayas, to Gangetic system of rivers somewhere in c. 2000/1900 BC (Map 8). It belongs to the last quarter of the third millennium BC. The mound at Hulas has about 5 m of occupation. This is divisible into five cultural periods:

- Period I: The lowest yielded Harappan Ware
- Period II: Painted Grey Ware
- Period III: Northern Black Polished Ware
- Period IV: Kushan Ware
- Period V: Gupta Moulded Ware

The PGW users occupied a different portion of the mound (Fig. 19).

The Harappan strata is 2.5 m thick. At one stage, the Harappans constructed a solid mud platform running north-east/south-west as a protective measure against the floods. Out of five structural levels, this strata revealed three successive living usages. Five out of forty-three structures, including the floor levels, belonged to the earliest, thirty-two to the middle phase and the rest to the upper phase (Fig. 20). Beginning with rectangular mud brick houses in earlier phases, circular huts made an appearance in the middle level and both traditions continued in the upper phase (Pl. 15C-D).
Map 8 Harappan sites in western Uttar Pradesh
Fig. 19 Schematic section across Hulas mound, 1978-83

Fig. 20 Circular huts and mud-walled houses, Hulas
During the earlier phase, a very small percentage of coarse red ware was found with Harappan pottery, whereas in the middle phase it was the Harappan pottery which dominated. In the upper phase, Harappans continued with other new types and painted designs (Figs. 21-23, Pl. 16A). Miniature pots dominated the phase (Dikshit 1982, 1990-91).

Characteristic Harappan pottery forms including the dish with projected rim and carinated shoulder, the globular vessel with a flange round the neck, the shallow dish with an incurved rim, and the jar-stand with a concave profile (Wheeler 1947: types I, XIII, XXX, SLV) are rare at Hulas. Even types 15, 16, 21, 22 and 23 found at Alamgirpur (Fig. 24) are absent at Hulas. The painted motifs, which are executed in black pigment, are all simple bands, triangles, mat designs, rows of hatched diamonds with horizontal bands, chains within bands, leaf patterns and a dancing peacock with a hatched body. A few painted motifs placed on the neck and shoulder seem to have been derived from the pre-Harappan traditions. Still, a majority of painted motifs are Harappan.

There is also an incised decoration on the exterior of some pot. One of the sherds had deep conspicuous compartmented design on the inner side reminiscent of Early Harappan features.

Important antiquities included terracotta animal figurines, cakes, truncated bicone beads, and ball with incised mark; fragmentary copper bangles, chisels, spiral rings, wires, needles with eye and fish hooks, bone points, stone quern and pestles; faience objects-beads, bangles and pots and also beads of agate. Indeterminate terracotta objects of various sizes were also encountered. A terracotta sealing with three Harappan signs was also found (Pls. 16B-E, 17A-B).

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**Fig 21** Pottery types from Hulas

**Fig 22** Painted pottery, Hulas
During the excavations at Hulas, a row of miniature pots were noticed on the periphery of a pit (Pl. 17C). The identification of these pots could not be done till the excavations at Sanauli (Sharma et al. 2006) revealed similar rows of miniature pots near burials (Pl. 17D).

Mention of the modes of disposal of dead in ancient India is found in Vedic literature. Certain hymns in *Atharvaveda* describe rituals pertaining to burials. The *Pitrymedha Sūkta* of *Atharvaveda* suggests that besides cremation, other types of burial rites which were prevalent in the society included putting the dead body on higher open air place (on tree or hill) or relocating the same (Mani 2006-07: 165). The dead ancestors have been evoked in the verse:

*Ye nikhātā ye paroptā ye dagdhā ye choddhitāḥ |
Sarvānśtānagna ā vaha piṛṭin havishe attave ||*

*Atharvaveda* (18.2.34)

The interpretation of these miniature pots in a row may be connected with burials in one or other form. When a person dies outside, then such rituals are performed by his relatives at his place. At Sanauli some ritualistic objects of copper were found within a brick structure composed of large size bricks having their length 51 to 53 cm. *Satapatha Brāhmaṇa* mentions the size of bricks of the *chiti*, the largest ones being the length of thigh bone which should be around 52 cm as found in the pre-Mauryan bricks from various places including Lauriya Nandangarh, Rajgir and in more recent times at Sanauli (Mani 2006-07: 167).
Fig 24  Schematic section across the mound of Alamgirpur 1959 (IAR 1958-59)

Fig 25  Pottery types of Period I, Alamgirpur (IAR 1958-59)
ii. Alamgirpur

Excavations at Alamgirpur, on the left bank of Hindon, a tributary of Yamuna, revealed four cultural periods with a break in between all of them (Fig. 24). The earliest level (Period I) of 1.8 m thickness belongs to the Harappa culture and Period II is characterised by the occurrences of PGW and the black-slipped, black-and-red and plain red wares. The break between Period I and II was demonstrated by their respective cultural assemblages and as well as by a difference in the texture and composition of the layers (IAR 1958-59: 50-55). The notable potteries of Harappa culture are dish-on-stand, goblet with painted base, cylindrical jar, beaker and perforated jar (Fig. 25, Pl. 18A).

Peacock is a common painted design as at Hulas. Other interesting antiquities are the objects made of terracotta, faience, steatite, semi-precious stones, bone and copper and bronze. Bear-shaped animal headed handle being part of a vessel, a fragmentary terracotta body of a humped bull and also the representation of a snake were found.

In a large pit, a crushed pile of fragments that revealed thick platters and troughs when reassembled, and a short, incised inscription consisting of two symbols, probably the potter's name or mark, were noticed (Pls. 18B-C, 19A).

iii. Bargaon

Bargaon, a single culture site is situated on the left bank of the Maskara, a tributary of the Yamuna and the excavation yielded 1 m thick occupational deposit of Harappan ware along with unslipped ochre-coloured ware (Figs. 26-27). Amongst antiquities, terracotta cakes, a bull headed toy cart, wheels with central hubs, beads, chert blades, bone points, copper rings, stone weights and faience bangles were also found (Pl. 19B-E). The Harappan shapes included Indus goblet, ring-stand and miniature pedestalled cup. No evidence of structure was found (IAR 1963-64: 56-57).

iv. Mandi

A hoard of jewellery at Mandi in Muzaffarnagar district was discovered during an excavation carried out by D. V. Sharma et al. (1999-2000: 36-41). The excavation yielded two periods. These were Period I, which is Harappan and contemporary to that of Hulas and Alamgirpur, and Period II, which belongs to the Kushan period.

The jewellery was divided into five types of gold beads including 37 spacer, beads of semi-precious stones and copper were found in a copper container along with other jewellery. Some onyx beads were also found which were earlier reported by Mackay (1937-38) at other Harappan sites including Lothal.

The pottery reported is all Late Harappan and it includes plain and painted red ware and thick grey ware. After a hiatus, the site was occupied by Kushans having red polished ware with stamped designs.
FIG 26 & 27 Pottery shapes from Bargaon

FIG 28 & 29 Pottery from Ambkheri (IAR 1963-64)
v. Ambkheri

The site of Ambkheri which is located near Roorkee (Deshpande and Dikshit 1983) revealed a cultural deposit of 1.1 m with many hitherto unknown shapes and antiquities.

The pottery is inadequately fired and usually the slip has a tendency to peel off. The sherds do not bear any traces of paintings or incised designs, although cord design, mat impressions and horizontally raised bands can be noticed on the exterior of the pots. The noteworthy types in thick fabric included the large trough, bowl like lid with central knob, dish-on-stand, vase with flanged rim and oval body, ring-stand and basin with under cut rim.

A washed grey ware also accompanied this complex. Miniature pots are limited (Figs. 28-29). Antiquities recovered are a solitary carnelian bead, terracotta objects like cart-wheel with a central hub, animal figurines including humped bull, a fragmentary cake with oval depression and stone saddle-querns with pestles (Fig. 30). Remains of a brick-kiln and a hearth were also noticed (Pl. 19F).

In this connection, reference to Gadharona must be made, which also yielded similar pottery as reported from Ambkheri. These included a short stemmed dish-on-stand, a handle of washed grey ware, barrel type beads of banded agate and other terracotta figurines (IAR 1963-64: 54).

The ochre-coloured ware from Ambkheri, while sharing the fabric of the corresponding pottery from Bahadarabad, differs in form. On the other hand, the assemblage shows certain affinities with the Harappan material of Alamgirpur, Bara, Bargaon and Ropar. It appears that the site is likely to represent a degenerate phase of the Harappan culture and as such provides an important link in bridging the gap between the Harappan and PGW cultures.
vi. Bahadurabad

At Bahadurabad, while the diversion of a canal was worked out for a hydro-electric power house, a few sherds of red ware (called herein as ochre-coloured ware) and a hoard of copper objects (called as the items of copper hoard) were found.

The pottery is red, thick and inadequately fired. It compared well in texture and fabric with the so-called ochre-coloured ware (Figs. 31-32). A few trial trenches were laid at the site which revealed a deposit of hardly 60 cm through a thickness of 5.7 m of alternating sterile layers of sand and pebbles. Immediately above the natural soil, some quartzite flake tools and waste flakes were noticed. These tools appear to have no connection with the pottery of Bahadurabad.

The ochre-coloured ware and copper hoards could not be found associated in excavations at Bahadurabad although a copper harpoon of this vintage was found later in regular excavations with ochre-coloured ware at Saipai and more recently in the excavation of a cemetery site belonging to the Late Harappan period at Sanauli also revealed the presence of copper hoard objects with Late Harapans (Sharma 1989).

Bahadurabad represents a decadent stage of Harappa culture. Y. D. Sharma connects its affinity with the Harappan pottery and suggests that 'it might well have been manufactured by the last remnants of the Harappa before they sunk into what may at present be described as an oblivion' (Sharma 1964). A similar situation was also noticed at another site called Lal Qila (Fig. 33). Besides the pottery, which echoes Bahadurabad shapes including handled pot and painted designs of regional

![Fig 31 & 32 Pottery from Bahadurabad](image-url)
Harappan complex, a terracotta female figurine also deserves special attention. It has a narrow receding forehead, elongated neck and prominent breasts (Pl. 20A). The shoulders are perforated obviously for attaching arms (IAR 1969-70: 38-40).

A similar terracotta more debased in style and further away from the region was also reported from Shahabad, 30 km south-east from Shahjahanpur, now kept in the National Museum. It is partly worn out and is 8 cm in height (Pl. 20B). The lower portion is also broken. The execution is slightly crude and primitive and appears to have followed the tradition of the grotesque figurines found at Mohenjo-daro and other sites (Dikshit 1973: 261-63).

Manpur and Bhatpur, lying in the region of Lal Qila, also revealed similar pottery. An indeterminate terracotta object noticed at Bargaon and other sites was also found in this region (see Pl. 16E).

**F. Gujarat**

A series of excavations and explorations carried out in Gujarat provided distribution, chronology and evolution of Harappan civilization. Gujarat is a good example of showing the devolution or deterioration of material culture when the urban fabric of a culture disintegrates. This fact is stratigraphically demonstrated at Rangpur and other sites (Map 9).
i. Rangpur

Rangpur is situated on the bank of the river Bhadar in Gujarat. Excavation revealed three main cultural stages, i.e., pre-pottery microlithic culture (Period I), Harappan culture (Period II) and post-Harappan lustrous red ware culture (Period III). The principal ceramic industries of Period IIA are assigned as Harappan red ware, buff ware, coarse red ware and coarse grey ware (Fig. 34).

The mature nature of the Harappan culture can be seen in the form of a large variety of ceramic ware, personal ornaments, objects of domestic use and tool and weapons. Disk beads of steatite and gold, lenticular beads of agate, cylindrical beads of steatite, carnelian and faience are identical with the beads from Mohenjo-daro, Harappa and Lothal.

The decline of the prosperity of the Harappans can be noticed from the Period IIB which is assigned by the excavator as Late or Degenerate Harappan culture. The degenerating nature of the culture is apparent from the ceramics especially on the surface treatment, fabric, etc. (Figs. 35-36). No structures were seen in the entire 4 m occupational deposit of Period IIB. Post-holes suggest thatched roof houses. The inferior ceramic wares, limited use of typical Harappan ornaments of steatite and the absence of chert blades and cubical stone weights are the indicators of the decline of material prosperity of the Harappans in this period (Rao et al. 1987).

Doubts have been raised that even IIB stage at Rangpur on account of the coarseness and indifference of pottery, absence of structures and other basic needs and the presence of post-holes cannot be called as Harappan. In fact, the IIB and the IIC stages are truly Degenerate rather than Late Harappan (Figs. 37-38). Soundara Rajan has quoted a corresponding C-14 date for the lustrous red ware at Navdatoli (Phase IV) which is c. 1500-1700 BC and this date is the virtual end of the Harappans all over this region (Fig. 39) (Soundara Rajan 1984: 220-221).

ii. Desalpur

Desalpur is located towards the northwestern part of Kachchh and was excavated by K. V. Soundara Rajan (IAR 1963-64: 10-12). The site is of 130 x 100 m in dimension and situated on the northern bank of the once depredatory stream, Bamu-Chela, an effluent of the river Dhrub.

The 3 m cultural deposit yielded two main cultural layers, i.e., Period I (Harappan) and Period II (Early Historic). Period I is again subdivided into IA (Mature Harappan) and IB (Late Harappan). Three structural phases ware recognised for sub-Period IA which is not evident in the sub-Period IB. The pottery forms of Period IA is of Mature Harappan and the painted pottery is replaced by a coarse grey fabric showing essentially horizontal lines of bluish or reddish-brown pigment on its most exterior surface in Period IB.

Though sub-Periods IA and IB show a cultural continuity, Period IB was distinguished by a cream-slipped bichrome ware, represented by dish and bowl forms with slightly everted rim and mildly convex profile. The painted designs are in black or purple and reddish-brown on the upper part of the bowl and comprised such motives as vertical wavy lines, concentric semi-circles, vertical lines. Use of plain as well as grey-pained black-and-red ware, represented mostly in blunt-carinated dishes or bowls with or without flat base is also evident in this sub-period.
Fig 34 Red ware of Period IIA, Rangpur (after Rao et al. 1987)

Fig 35 Buff ware and coarse red ware of Period IIB, Rangpur (after Rao et al. 1987)

Fig 36 Red ware of Period IIB, Rangpur (after Rao et al. 1987)
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Fig 37 Red ware of Period IIC, Rangpur (after Rao et al. 1987)

Fig 38 Coarse red ware and lustrous red ware of Period IIC, Rangpur (after Rao et al. 1987)

Fig 39 Lustrous red ware of Period III, Rangpur (after Rao et al. 1987)
iii. Dholavira

The site of Dholavira is located in Kachchh district of Gujarat and lies in the northwestern area of the island of Khadir. The ancient settlement is embraced by two tunnels, i.e., Manhar and Mansar.

The site was excavated for several seasons and has yielded seven chronological stages. Stage IV belongs to the classical Harappan culture and the general decline of the site can be visualized from stage V in terms of the maintenance of the city. However the pottery, seals, weights, etc., continued to be in use. After a temporary desertion of the site for a few decades, the site was reoccupied and the transformed Harappan culture (stage VI) was noticed.

New ceramic traditions appear from the sites of Sindh, Rajasthan, and other parts of Gujarat. The fabric of the pottery underwent a perceptible change, although the forms as well as decorative motives continued. New pottery wares such as white painted black and red and white PCW and a coarse ware bearing incised or appliqué or both kinds of designs made their appearance. The structural evidences are confined to the citadel and southern margin of the middle town. The other antiquities like seals underwent changes and became long and rectangular with a flat or triangular back rather being square in form.

The Late Harappans of this phase abandoned the site and again occupied in deurbanized form in stage VII. The transformation of Harappa culture in Phases V and VI perhaps belongs to Late Mature stage because nowhere were the seals and other objects encountered. It is only stage VII which belongs to Harappan decline but the excavator has not offered any date for this period (Bisht 1999: 23).

iv. Kanmer

Recent excavations at Kanmer in Kachchh district of Gujarat revealed a fivefold cultural sequence starting from Early Harappan to the Medieval period, with gaps in between. Early Harappans were identified in a pre-fortification deposit of about 40 cm above the virgin soil, whereas Period II, which is further divided as IIA and IIB, belongs to the Mature Harappan phase. The Late Harappan phase (Period III), which was found in the central part and also in the southeastern area of the mound was identified on the basis of absence of the urban phase pottery, weights and terracotta cakes. The quality and surface treatment of the Harappan pottery declined and design pattern and shapes also changed. The Ahar type black-and-red ware also continued in this deposit. Their structures were erected on the top of the rampart. A broken pot was found full of steatite (11,707 in number) and faience beads (27). The Harappan occupation at the site from Early Harappan to Late Harappan has no cultural discontinuity and reflects a process of cultural evolution as well as devolution (Kharakwal et al., 2009).

v. Juni Kuran

The excavation at Juni Kuran in Kachchh district have shown it to be a typical Harappan township, showing similarities with the town planning of Dholavira. It revealed a citadel, two stadiums, a pillared hall, gateways, drain and mud platforms. The Mature Harappans were succeeded by Late Harappans without any interruption (Pramanik 2003-04: 45-67).
vi. Ratanpura

Ratanpura is located in Mehsana district in the estuary of the river Rupen. It is a single culture site which could be broadly compared with that of Rangpur's Phase IIIC. This is the first site from where black-and-red ware sherds were found in substantial quantities in the Harappan complex. Excavators have pointed out that the ceramic assemblage represents both Harappan and non-Harappan tradition (Fig. 40).

Of these, the noteworthy finds are fragments of three varieties of terracotta sealings and hundred of terracotta lumps of many shapes from deep circular pits (Pl. 20C-D). Other items are ash, charcoal, charred and uncharred bone pieces and pottery (Sonawane 2005).

While discussing the above sites, mention may be also made of the excavation at Vagad — a rural Harappan settlement in Gujarat. In a cultural deposit of 1 m, the excavators noticed three successive sub-periods starting from Mature to Late, indicating the average life of a Harappan settlement to be approximately 400-500 centuries.

The excavation revealed circular huts like those already found at other contemporary sites (Pl. 20E). In addition to this, it also yielded four circular clay lined fire altars. In the absence of bones or any industrial materials, these must have been used for some kind of rituals. Similar fire altars were also noticed at Lothal, Kalibangan, Navdatoli and Dangwada, which were used for the performance of yajñas as testified by the discovery of sacrificial fire altars. This practice, started by Harappans, was continued even after by the Chalcolithic people of central India, which confirms the continuance of a legacy of the performance of yajñas.

As there is no evidence of burning at the site, it is presumed that the residents abandoned the site due to failure of monsoon and consequent migration.

Vagad has definite signs of Late or Degenerate phase of the Mature Harappan culture in a rural settlement. It appears that the Vagad settlement was abandoned prior to the Late Harappan habitations found at Kanewal, Zekda and even Valabhi (Nasadi) where lustrous red ware was reported right from the basal layers (Sonawane and Mehta 1985). These excavations confirmed that urban centres flourished with the support of these satellite rural settlements. Furthermore, in the post-urban stage, when the internal trade declined, these settlements also eventually lost their utility and went into oblivion.

At Kanewal and Zekda, circular huts existed from the beginning of the settlement until its end (Figs. 41-42). These structures were supported by mud walls arranged along the circumference of the circle (Mehta 1982). In one case, the presence of a central pole was also observed on the plan. Evidence of a hearth was also noticed.

Valabhi (Nasadi) also revealed the presence of a circular structure on the patterns of other sites. But it was observed that the site in question was flooded during the monsoon and might have been used only for seasonal camps. Why these settlements were abandoned will require an in-depth analysis of the reasons for settlement, local topography, climate and human situation. Similar sites could be also seen in the Bahawalpur region of Pakistan.
G. Maharashtra

The extent of the Harappans was noticed on the northern periphery of Maharashtra. Here, it succeeded the already existing culture known as Savalda found at Daimabad. It appears to be an intrusion from the south of Gujarat.

i. Daimabad

Daimabad is situated on the left bank of Pravara, a tributary of the Godavari. The site was discovered by Bopardikar and excavated by different scholars at later times. Excavation by Sali (1984) in the 5 m thick occupational deposit has yielded five cultural phases.
Period I (2200-2000 BC) belongs to Savalda culture, Period II belongs to the Late Harappan (2000-1800 BC), Period III belongs to buff and cream ware culture (1800-1600 BC), Period IV belongs to Malwa culture (1600-1400 BC), and Period V belongs to Jorwe culture (1400-1000 BC). Sali, on the basis of evidence found at this site suggests that the Savalda culture was preceded by Late Harappa culture and the Harappans entered the upper Godavari basin early in the second millennium BC (Sali 1984).

The Harappa culture of the Tapi valley is of a degenerate or a late form (Fig. 43). The standard Harappan styles of painted designs were replaced by monotonous designs in this period. The degenerating nature can be understood from the cultural remains such as house structures, seals etc.

In a chance discovery in 1974 in Daimabad, a villager found in a pit under a tree four solid bronzes – an elephant, a rhinoceros, a buffalo and a chariot displaying sophisticated metallurgy that necessitated fresh digging by Sali (Pl. 21A-D). It is likely that these bronze objects found in a non-stratified context may be the sacred belongings and Sankalia is of the opinion that they were brought here by refugees (Sali 1984).

Agrawal and Kharakwal (2003: 164-165) feel that these objects do not fit in the Protohistoric copper repertoire at all, whereas Dhavalikar (1982) places them in the Late Harappan period.

Fig 43  Late Harappan red ware, Period II, Daimabad (after Sali 1986)
3. EVIDENCE OF RICE

Rice has been reported from the site of Rangpur in the form of husk embedded in mud-plaster, whereas in Lothal, it is found in the form of impressions of the rice spikelets. The report of rice at Kalibangan is debatable.

Potsherds and burnt plasters found in the excavations at Un on Katha nala in western Uttar Pradesh revealed traces of rice-husk used as a dégraissant. The husk had a regular chess-board pattern with wavy rows. The meshes in the husk were stretched vertically with the granules covering major portion of the mesh. On examination, the ornamentation pattern of the husk revealed characters common between the cultivated rice and *Oryza sativa* and the wild perennial *Oryza rufipogon* (Mittre and Savithri 1982).

The Harappan cultural style underwent a drastic change when the knowledge of rice cultivation opened more southerly and easterly regions to cereal farmers (Fairservis 1967). There is evidence of domesticated rice, finger millet (*ragi*) along with barley, wheat, various grams and peas from Hulas (Saraswat 1992-93: 1-12).

4. BURIAL PRACTICES

The cemetery at Farmana has revealed seventy burials so far and has been assigned to Mature Harappan phase such as Kalibangan, Rakhigarhi or R-37 at Harappa, whereas the burial site at Sanauli which revealed 116 graves belongs to a later stage of Harappan culture.

At Farmana, all the burials have a rectangular pit lined with clay. The body was placed inside the pit in north-south orientation with head towards the north. Three types of burial customs namely primary, secondary and symbolic were in vogue. The burial goods has pots and jewellery including beads, bangles, ear-rings etc. (P1. 22A-B).

The excavation at Sanauli in western Uttar Pradesh has solved, up to certain extent, the relationship of copper hoards and ochre-coloured ware and its relationship with the Late Harappan complex. It is here that the copper hoards are found *in situ*.

Moreover, Sanauli has one of the biggest cemeteries known so far in Indo-Pak sub-continent as at Farmana. It has double burials, triple burials, and symbolic burials including a burial with steatite inlay pieces, burial with human skull and a gold object and child burials (Pls. 23A-C, 24A-C) (Sharma et al. 2006).

The *Rigveda* also refers to burial customs namely cremation (*agni-dagdha*) and burial (*anāgni-dagdha*) and both these are present in the Late Harappan burial practices. The symbolic burial was very common with Harappans whether in north India or Gujarat. In the excavations at Nagwada, symbolic burials were also practiced (Pl. 22C).

The contribution of Farmana and Sanauli has opened a new vista for the study of human skeletal remains at these places as the excavations of burials of this magnitude were not known and excavated so far in India. It has generated enormous data to work on the human population.

As worked out by the excavators of Farmana, the sophisticated multidisciplinary investigations of this data will certainly throw light on various aspects of Harappan population
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including composition and movement of the people, their dietary habits and burial practices. It is also planned to undertake DNA, Strontium and dietary studies of these skeletal remains found at Farmana by the excavators.

5. DISCUSSION

The above field data revealed that the Indus system of rivers constitutes an area which has political and economic interaction through the ages with Indian Ocean on the one front and with west Asia and Gangetic India on other sides. The survey of Harappan settlements in India has revealed that the cultural retardation of the Harapans which took place due to economic upheaval in the nuclear region was a later event in Gujarat and northern India. The settlements in later period became small in size but there was a considerable increase in their number.

During Late Bronze Age (c. 1900-1400 BC), Ropar survived as an urban centre in northern India on a small scale but other settlements in Punjab such as Sanghol, Dher Majra, Dadheri, Nagar etc. were the village settlements. At Dher Majra, Harappan bead industry survived.

The settlement of Mitathal IIA in Haryana which is said to be laid on the twin mound pattern, revealed only mud-brick structures. In Phase IIB, the continuation of the mature tradition can be seen but in a declined way as there is no polish even on beads and the cart-wheels are thicker and smaller in size. Bhagwanpura, another site on the bank of Sarasvati, revealed two clear-cut stages of Late Harappan but in its later stage it also has an overlap with the PGW like Katpalon and Nagar.

In western Uttar Pradesh, the Harappan culture-complex at Hulas, Alamgirpur and Bargaon was found as an extension of Punjab complex. At Hulas, the construction of a large mud platform running in the north-east and south-west direction also survived as a conceptual architectural feature of the Harapans. A terracotta sealing with three Harappan signs was also found. The occupational deposit of 2.5 m thickness revealed a decline in the construction of mud brick structures in the upper levels, whereas circular huts and pits of different dimensions continued from middle to upper phase (Dikshit 1984).

In the absence of any city or town site here, it appears that Ropar was the easternmost urban centre controlling the internal and external trade of the Harapans on the Sutlej in Punjab and Banawali, Rakhigarhi and Bhirrana on the Sarasvati in Haryana. The tributaries of the Yamuna also participated in the diffusionary process of the Harappan civilization which was spreading with regional and local variations from Sutlej and Sarasvati to Yamuna in the east. In Gujarat, no urban centre has been reported in later period. However, at Rangpur, the Late Harapans transformed into another culture known as Lustrous Red Ware. Was it a decline or a localization process?

However, Possehl sees a decrease in settlements of the Lustrous Red Ware phase (Possehl 1999). The distribution of different finished precious and semi-precious Harappan artefacts on the later Harappan sites around 1800 BC and afterwards, suggest a major disruption from Mesopotamia, which affected the trading links with the central and northern zones of Harappan civilization and ultimately with Oman, Bahrain, Afghanistan and Iran.

The survey shows that Late Harappan survived regionally, each springing from their Mature Harappan tradition having distinct assemblages typified as regional dynamics like repertoire of
Cemetery-H in Punjab and western Uttar Pradesh, Jhukar in Sindh which overlapped with Kulli in southern Baluchistan and Rangpur and Lothal in Gujarat.

6. CLASSIFICATION AND CHRONOLOGY

The sites of the Harappan civilization provide in the following order four different devolutionary stages in Punjab, Haryana and western Uttar Pradesh, whereas in Gujarat, the sites like Rangpur, Desalpur and Dholavira also present a similar story. In this survey, Anarta and affiliated Chalcolithic settlements have not been taken into account because of their early beginning.

**NORTH INDIA**

A. Early Mature Harappa
   - Rakhigarhi, Banawali, Balu, Kotla Nihang Khan and Ropar
B. Late Mature Harappa
   - Ropar, Chandigarh, Bara, Mitathal IIA, Mirzapur, Alamgirpur and Hulas
C. Late Harappa
   - Mitathal IIB, Sanghol I, Bhagwanpura I and Bargaon
D. Overlap (Late Harappa-PGW)
   - Bhagwanpura IB, Dadheri IB, Nagar I and Katpalon I

**GUJARAT**

E. Early Mature Harappa
   - Dholavira, Surkotada, Desalpur, Lothal, Bagasra and Nagwada
F. Late Mature Harappa
   - Dholavira, Lothal, Desalpur, Shikarpur, Bagasra and Rangpur
G. Late Harappa
   - Rangpur, Desalpur, Dholavira, Kanewal, Zekda, Vagad and Ratanpura

Survival of overlap phase of Late Harappa must be quite late. This complex was seemingly supplanted by local cultures and diluted to the point of non-existence.

The Harappa culture did not die out as it is clear from the above survey but survived in Gujarat, Punjab, Haryana and parts of western Uttar Pradesh. This time bracket could be worked out on the basis of their continuity with the end of Mature Harappa somewhere in 1900 BC at Rangpur, Desalpur, Ropar, Mitathal and Hulas whereas in the still later stage it overlapped with later or other contemporary cultures at Rangpur in Gujarat region and at Dadheri, Katpalon, Bhagwanpura etc. with PGW in north India.

The radio-carbon dates from Bara 1890 ± 95 and 1645 ± 90 BC could also be considered in this context. Bara revealed fourteen layers and the earliest date is from the middle level: Layer 9 at
a depth of 1.2 m below the surface, thereby suggesting that the occupation at this site must have continued for four to five hundred years more.

The C-14 dates from Sanghol 1900 ± 220 and 1690 ± 190 BC confirm Bara dates. TL dates from PRL (Ahmedabad) also range between 2060 ± 375 and 1325 ± 330 BC. The C-14 dates from Hulas range from 2560 ± 155 and 2005 ± 115 (uncalibrated date in BC) and are on earlier side. The date from Mitathal IIB is also 2370 ± 220 BC. This also seems to be too early in comparison with Bara and Sanghol.

Geologists have suggested that somewhere in 2000/1900 BC, due to some tectonic movement in upper Himalayas, the Yamuna started flowing as a separate river and all the earlier tributaries of Sarasvati started flowing into the Yamuna. If this date is acceptable, then most of the sites in western Uttar Pradesh could be equated in a time bracket before 2000 BC and they might have continued in later centuries till they came in contact with local cultures.

Excavations at Hulas and Alamgirpur including Muhammad Nagar in Gurgaon have not shown any overlapping with PGW. The exact reason is difficult to explain at the moment except that Harappans did not survive for long with their material culture and did not come in contact with the PGW as was the case in Haryana and Punjab. These were on their main routes of migration from lower levels to the upper reaches of Sarasvati and other rivers. However, there are many Harappan sites as discussed above where the material culture of Harappans did not overlap.

In my opinion, there is no consensus on the dates based on C-14 till the differentiation between Mature Harappan and Late Harappan clears, and the concept of Late Harappan is better defined or understood. In connection with the eastern domain of Harappan civilization, Ropar, as stated earlier appears to be the last urban centre as a steatite seal and other items of Mature Harappan culture were found here.

Hulas is a site lying in hinterland, supporting urban centres and belongs to the Mature Harappan according to the date bracket. However, it seems to have no visible traits of Mature Harappa except that it might be a localized indigenous culture (as is the position of Anarta in Gujarat) with Harappan contacts. Bara culture has also been termed as localized culture.

7. DATA FROM PAKISTAN

In Pakistan, in the early 50s, what were described as the post-Harappan cultures have been included in the Late Harappan phase since 1970 (Dani 1981). The Late Harappan phase has been noticed in two areas, (a) the northern region with type site Harappa where Cemetery-H culture was found at mound AB and Cholistan desert in Bahawalpur and (b) the southern region where Jhukar culture was noticed in the upper levels of Chanhu-daro, Mohenjo-daro and Amri. The Cemetery-H material noticed at Harappa became a part of the Harappan complex noticed at the Late Harappan sites in Punjab and Haryana. In Pakistan also, at the end of third millennium BC, a culture change was witnessed in Mature Harappan levels. For these seemingly post-Harappan cultures, the term Late Harappan is being increasingly used suggesting perhaps that Harappan traditions continued both in Jhukar and Cemetery-H.
The renewed excavation at Jhukar in 1973-74 (Mughal 1992b) provided stratigraphic evidence from the smaller mound 'A'. The following sequence of cultures was obtained from the 5.2 m thick deposit as under:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Layers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Historical</td>
<td>1-10</td>
</tr>
<tr>
<td>Late Jhukar</td>
<td>11-14</td>
</tr>
<tr>
<td>Middle</td>
<td>15-17</td>
</tr>
<tr>
<td>Early Jhukar</td>
<td>18-20 and about 3 ft (0.914 m) below water level</td>
</tr>
</tbody>
</table>

Mature Harappan pottery was present in all the phases of Jhukar. The excavation further brought out that Jhukar consists of only a few pottery types occurring in association with the Mature Harappan ceramics in the later levels. It has been placed by two calibrated dates between 2165 and 1860 BC but continued in the lower Indus valley up to 1700 BC. To substantiate the point that the so-called Jhukar culture was in fact representative of the Late decadent Harappan civilization in Sindh, it should not be considered a different class of people as thought earlier (Mughal 1989).

At Amri IIIC, a transformation was noticed in the Harappan pottery which also continued in next phase. Casal regards Jhukar as a distinctive phase of the Late Harappa (Casal 1964). The painted design and a fragment of a bowl with stud handle from Jhukar is comparable with similar design and not types at Lothal A and B and Rangpur IIA and IIB (Mughal 1992c). The Late Harappan material from Punjab specially the Cemetery-H repertoire from the graves and settlement mounds AB and E at Harappa dates the Harappan material between 2155 and 2020 BC.

The post urban data from Northern Baluchistan, the North-West Frontier and other areas in Pakistan is still in collection stage.

The Late or Degenerate Harappan phase in Pakistan is not as clear as it is in Indian sub-continent. The Cemetery-H sites in Bahawalpur are all unexcavated and the explored data including any Mature Harappan material, if found from these sites, is also not available. The renewed excavation at Jhukar has no doubt shown the continuance of Jhukar pottery with Mature Harappa. It also implies that there is no single occupation site of Jhukar. In the earlier excavations at Harappa, Vats was of the view that Cemetery-H culture was the final stage of the Harappans (Vats 1940). In renewed excavation at Harappa from mound AB and E, the Cemetery-H habitation revealed continuity with some changes in pottery types.

8. BACTRIA-MARGIANA ARCHAEOLOGICAL COMPLEX AND LATE HARAPPANS

Excavations were carried out in recent decades at a number of sites in the area extending from Margiana in the west to Bactria in northern Afghanistan. This culture is named the Bactria-Margiana Archaeological Complex (BMAC) and its mature stage is datable to c. 2000-1700 BC. It has a town-planning and monumental architecture as noticed at Gonur in Margiana. Some scholars including Dhavalikar (2007) declared this as culture of pastoralists and termed it as 'Aryan Immigration', which came from Central Asia to India.
In 1999 at Gilund, a site in Rajasthan was put to excavations which revealed a cluster of the clay seals with a variety of floral designs with sun motifs, buried in a silo, in the area with multiple parallel walls of mud bricks. While comparing these seals with the BMAC, which are in cut-forms in stone and metal, the excavators are of the opinion that there was an interaction between this Chalcolithic culture with BMAC culture in Afghanistan and Central Asia and Harappans might have played a significant role as intermediaries between the two (Possehl et al. 2004).

Lal, who has examined this hypothesis, concluded on the basis of Baudhāyaṇa Śrautasūtra that a section of Vedic people after the drying up of lower Sarasvati basin emigrated towards west Gandhara, Persia and Aratta bordering on Turkey, sometime in the second millennium BC, where a treaty was recorded between a Mitanni king named Matiwaṣa and a Hittiti king named Suppiluliuma, dated to 1380 BC. In this, they invoked the Vedic gods as witnesses namely Indra, Mitra, Nasatyas and Varuṇa. There is no evidence to sustain this theory of immigration as there was no entry of a new set of people into India between 4500 BC to 800 BC (Lal 2009).

As this cultural complex has no direct bearing with the declined material culture of Harappans, it could be discussed elsewhere while debating the original homeland of Indo-Aryans.

9. THE LEGACY

Against this background, the legacy of the Harappan civilization in the field of material or immaterial things handed down from predecessors has been examined. The question comes to mind as to what happened to the lingering elements of this civilization after its collapse and in what way did Harappan religion and mythology influenced the religious ideas and mythology of later Indian culture. In 1931, when John Marshall published his exploration and excavation report of Mohenjo-daro, he clearly visualized water-worship, tree-worship, snake-worship, etc., which are prevalent in the present-day Hinduism, as the legacy of the Mature Harappan civilization (Marshall 1931). He may not have had enough data then, but now the data is very rich and his ideas can be examined in greater details. The presence of fire altars at Kalibangan and their continuance with later Chalcolithic folks throw light on the fire worship in India.

It was argued that many later-day Hindu religio-ritualistic practices and spiritual thoughts were derived from Harappan civilization. However, there is a school of thought which believes that there was a complete break in tradition and no continuity of the lingering elements of the Harappan civilization in the contemporary and succeeding Chalcolithic cultures could be seen. We need not agree with this view but at the same time we must examine the claim regarding how all the urban traits of this civilization ceased to exist simultaneously with the end of cities.

The legacy of Harappan civilization can be seen only in the conceptual continuity such as represented by symbols and motifs on punch-marked coins and similar material including the representation of Śiva-Paśupati, liṅga and Mother Goddess (Lal 2009). The Daimabad bronzes which are outside Harappan culture context perhaps owe some kind of technological survival to Harappans although it is difficult to substantiate.
10. CONCLUSION

From 1922 to 2010 we have travelled a long way to understand the Harappan urbanization including its origin, extent, decline and also legacy. In terms of chronology of the Late Harappan cultures or post-Urban phase, the reliable data is from Gujarat and other north Indian sites. The C-14 dates are very few except Sanghol and late levels of Mohenjo-daro (Jhukar) which do not help in reconstructing any acceptable time-bracket. How long did the process of dilution of Late Harappan cultures continued in the Indo-Pak sub-continent remains debatable.

The legacy of the Harappan civilization appears to be extremely dominant in the field of ideological foundation. The mass of oral traditions, which form part of our present-day civilization, appears to be our biggest inheritance of the Harappan civilization. The later Vedic literature may give a proper background for this. We have to, therefore, make some serious efforts to correlate the archaeological and literary data in order to work out the Harappan legacy.

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References


IAR: Indian Archaeology: A Review (reference year cited where appropriate).


