CHAPTER-2

RESUME OF PREVIOUS RESEARCHES

The archaeological explorations and excavations in the area of study started in second half of 19th century. Before going to my research problem, it is imperative on part to highlight the brief history of protohistoric explorations and excavations in the geographical area of my research. This region has witnessed the human presence from the lower palaeolithic times and the first urban civilization of Indian sub continent occurs in this region.

The first archaeological exploration in this region was undertaken by A. Cunnigham in 1864-1865. He explored the site of Bairat, now tehsil head quarter, in Jaipur district. The excavation at Bairat unearthed the remains of a stupa, monastery and temple on a flat hill top, known as Bhimji ki Dungri. An Ashokan inscription is also found at Bijak ki Pahari, 1.5 kilometre north of the stupa site. There is a Museum at the site of Bhim ji ki Dungri, which housed cast copper coins, Mitra coin, Indo-Scythian coins, terracotta figurines, stone sculptures and early historical pottery including NBPW and stamped pottery.¹

A.C.L.Carlleyle in 1871-73 did explorations in Rajasthan. He explored the megalithic structure at Khera and Satmas near Fatehpur Sikri in Agra district in Uttar pradesh, Machri in Alwar district and at Dausa, now a district head quarter in Rajasthan. Opening of some of the megaliths yielded bones, ash and charred wood pieces. He also explored the early historical site at Bairat and Nagar in Jaipur district and Nagari in Chittor district.² An Ashokan inscription is also discovered by him at Bairat engraved on a rock. The digging underneath of this engraved rock unearthed four earthen pots containing bones at a depth of about 60 cm.³

In 1915-16 D.R. Bhandarkar reinvestigated the site of Nagari. He discovered three inscriptions and conducted excavations at Hathi Bara and inside the citadel at Nagari.

³ Ibid., pp.91-103.
Here the remains from early historical to early medieval times are found. During the years of 1916-1918 an Italian Indologist, L.P. Tessatori, visited the Bikaner state for collection of ballad and folk material. Along with that he also collected some sculpture from the ancient sites near the bed of the Ghaggar river. He explored along the dry bed of the Ghaggar and discovered many sites belonging to protohistoric, early historic and medieval times. He died in 1919 before publishing the report of his findings. But his manuscript was later on used by A. Stein during his own explorations of Bikaner state in 1941-42. Tessatori carried out trial excavations at Kalibanga, Pilibanga, Munda, Kanisar, Sohankot, Pir Sultan, Baror and Binjor.

The first exploratory work on large scale was conducted by A. Stein during the year 1940-41, along the dry bed of the Ghaggar river in Bikaner state and the Hakra river in Bahawalpur state in Pakistan. He explored about forty sites in each of these states. The sites discovered by him mainly belong to Rang Mahal culture of Kushana times. These sites yielded typical Kushana pottery, coins, terracotta toys figurines and architectural remains of kiln fired, baked and sun dried bricks. The sites of Kalibanga, Pilibanga, Karnisar, Mathula, Baror and Binjor yielded a black on red type of pottery, which is different from the Rang Mahal wares. At that time he was not able to recognise its Harappan affiliation.

After partition the first major exploration undertaken by A. Ghosh during 1951-52 in Indian territories along the Indo-Pak border. He explored the upper reaches of the valley of the Drishdvati and the Ghaggar river upto the Pakistan border. During this exercise, he explored more than hundred sites related to Harappan, PGW and Kushana periods. For the first time he established the eastern presence of Harappan culture by discovering about 25 Harappan sites in the Saraswati/Ghaggar river valley in Haryana and Rajasthan.

K.F. Dalal during the seasons of 1967-70 carried out explorations in Ghaggar valley in Ganganagar district for her Ph.D. thesis. She visited already known sites and

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7 Ibid., pp.1-38.
explored some new sites also. The main contribution of Dalal is the discovery of a sturdy incised ware, which was later discovered by Mughal in Hakra valley and was given the name Hakra ware and he considered it older than early Harappan.9

The explorations by ASI and State Department of Archaeology and Museum of Rajasthan, Deccan college, Poona, Cambridge-Oxford-Baroda University Expeditions and many research scholars of Indian universities elucidate the cultural sequence of this area beyond any doubt. The reports of these explorations are published from time to time in Indian Archaeology-A Review and other journals. The excavations conducted in the state of Rajasthan, Punjab, Haryana and western Uttar Pradesh are briefly discussed below.

Excavations in Punjab

Y.D. Sharma conducted excavations at the site of Rupar in the district of Roopnagar. It was located on a fluvial mound of sand and pebbles. Five cultural phases are revealed at the site starting from Harappan followed by PGW, NBPW, early historical and medieval period. There is a sterile layer between Harappan and PGW phase. It yielded characteristic Harappan pottery, chert blades, bronze celts, inscribed steatite seal, faience beads and bangles, etcetra.10 In the next session, they excavated the cemetery part of the site lying 160 metre west from the main site on a low mound. The Harappan human skeleton remains are disturbed by cutting in floors by PGW people.11

The sites of Bara and Salura are located about 8 kilometre in the south of Rupar, adjacent to each other. The Harappan culture at Bara has two phases, the lower phase is late mature Harappan and the upper one show new feature in pottery tradition. The pottery of upper phase show characteristic wavy and horizontal linear incised designs. Moreover, the terracotta discs also became scarce in upper phase. This tradition is present at Harappan sites of Bikaner region.12

G.B.Sharma excavated the site of Rohira. It revealed four periods of habitations. The period-I has been divided into three sub phases IA, IB and IC. The period IA having yellow silty soil revealed thin sectioned, wheel turned, black painted, red to pink colour

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10 *IAR*-1953-54,pp.6-7.
pottery. The pottery types are vases, dishes and storage jars. The geometrical paintings included horizontal bands, criss-cross, wavy lines, loops, natural designs and fish scales. The sun dried bricks sizes are in 1:2:3 ratio. A gold foil recovered from an oval shaped structure. The other findings include terracotta bull figurines, toy cart-wheel, bangles, beads of steatite, agate and carnelian, and bone styli, etc. The period-1B is represented by typical Harappan remains along with previous period remains, arrow heads, stone parallel sided blades with serration on one side. The period-1C represented Bara cultural remains. An urn having the skull and teeth of a child is also found from this level.13

The site of Dadheri (30° 40’ 00”N;76° 15’ 00”E) is located in Ludhiana district, Punjab. J.P.Joshi exposed a threefold cultural sequence here: IA and sub period IB and period-II. The period IA belonged to late Harappan phase. The ceramic industry is represented by plain and painted sturdy red ware. The main shapes were jars and dish on stand. The decorations included horizontal bands, criss-cross pattern, filled in arches and hatched lozenges. A pot with painted and incised decoration is a special find showing early Harappan affiliation. The other findings include terracotta wheel, beads, painted bull figurine, faience bangles, copper objects, beads of carnelian and lapis lazuli. The 59 centimetre thick mud wall houses on a solid rammed mud platform runs east-west. Presence of post holes suggested houses of wattle and daub.14

Sunet: The site of Sunet (30° 50’ 00”N;75° 50’ 00”E) is located in Ludhiana district, in Punjab. The cultural deposit has been divided into six periods. The lowest period-I belongs to late–Harappan times, which is dated between c. 1800-1400 BC. It is represented by thick, sturdy, red colour wheel made pottery. The pottery is akin to Sanghol-I and Bara. The rim of jars and vases found in limited area exposed. Period-II reveals PGW along with the Bara, BSW and associated red ware.15

Sanghol: The site is located in Ludhiana district, in Punjab. The area of the site is about 300 square metre and its height is 25 metre. S.S.Talwar exposed six cultural periods here. The period-1 is related with Bara. The pottery show some resemblance with Harappan in form and surface treatment but lack in classical Harappan shapes. The chief shapes are large and medium size jars with slip on upper portion and roughened lower portion. The decorations on the slipped part included linear and naturalistic motifs along

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14 IAR-1976-77, p.43.
with incised designs. The antiquity comprise beads of terracotta, agate, steatite, faience, bangles of faience, terracotta discs with lenticular section and bone points.16

In continuation of previous year work at the site of sanghol, trench no.2 was further excavated. The excavations reveals the presence of dish on stand, dishes, bowls, bowl like dishes, beaker, storage jars, flat dishes with short sides with rough bases, small to medium size vases and hollow ring stand in ceramic industry. The paintings are executed in black, brown and mauve purple colour. The paintings comprise of geometric and naturalistic motifs. The geometric designs are single or multiple bands, loops suspended from a band or between the bands, triangles filled with criss-cross or oblique lines, lenticulars, swelling curves ending in finger like multiple prongs. The natural designs consist of leaves and flowers. The incised decorations were also present on vases and they include multiple wavy lines, deep horizontal lines intersected by single or multiple straight, wavy, oblique and zigzag lines on the waist portion. Bulk of the pottery is similar to Bara ware. The mid level of period-I yielded the small and medium sized globular and ovoid vases with disc bases, jars with beaded, beaked, collared and splayed out rim, large lota shaped vases, squat dish on stand, storage jars, troughs, jars with ring base and bowl like lid with or without central knob. They represent the painting motifs of sweeping curves, butter fly or double axe. This pottery betrays the similarity with cemetery–H pottery. This pottery tradition extended into the upper level of period-I. Thick black band around neck remind of Kalibangan-1 ceramic. The other finds include rectangular sectioned two copper chisel with slightly splayed out edges, agate inlays, heart shaped bangles, red and azure green faience ear rings.17 Three structural phases are exposed in period-I. The walls are constructed with mud and mud bricks of irregular shape. In the next phase late Harappan, BSW and PGW overlap. The Bara pottery was predominant in this phase. The separate PGW horizon did not exist.

Excavations in Pakistan

Jalilpur: This site was excavated by M.R.Mughal. It revealed two phases of early Harappan habitation. The period-I represented by thick, hand-made, reddish pottery. It is decorated with thick appliqué designs and designated as Hakra ware by the excavator. The antiquities comprised gold and terracotta beads, net sinkers, bone points and chert

16 IAR-1968-69, p.25.
blades. In the upper levels of Period-I fine, wheel made bichrome ware appears which forms the main ceramic industry of Period-II. The period-II is further sub-divided in two phases IIA and IIB on the basis of the presence of Hakra ware. The antiquities noticed during period-II are terracotta toy cart frame, shell bangles, leaf shaped arrow heads, grinding and pounding stones, chert blades and lapis-luzuli beads. The pise walls are also present.\(^\text{18}\)

**Kot-Diji:** The site of Kot-Diji is located in 25 kilometre south from the Khairpur township of Pakistan on national highway in the shadow of medieval Diji fort. The excavations were conducted by F.A.Khan in 1965. The excavations revealed the Kot-Dijian and mature Harappan remains. The site has pre Harappan citadel and extended township. The citadel wall was constructed over bed rock. It strengthened by the bastions and riveted with mud and mud bricks on outer side. The cultural habitation divided into 16 layer. The layer 16 to 3 A show the presence of Kot-Dijian material. The 13 layers of Kot-Dijian cultural deposit reveals 11-12 occupation levels. The Kot-Dijian cultural material comprised stone and mud bricks solid houses and wheel made ceramic that has little and no affinity with Harappan pottery. The ceramic industry consisted of well-fired, red slipped and fine surface ware. It is characterize by rimless, neckless pottery shapes with colour bands in red, sepia and black colour around the neck. The main pottery type are squat and globular jars with wide mouth and dishes with featureless rim and hollow stand. The fish scale pattern developed in the late stage of Kot-Diji phase.\(^\text{19}\) The antiquities are stone arrow head, scrapers, micro blades along with terracotta bull figurine. The layer 3A show the sudden change in the cultural material showing the mature Harappan cultural remains. The Harappan cultural material comprised all the typical Harappan pottery type and antiquities.

The Kot-Diji excavations indicate that thick, heavy, well-fired, sturdy, black on red ware which ring metallic sound when struck (Harappan pottery) did’t originate in thin pinkish pottery of Kot-Diji levels. Except for the few common forms and simple decorative designs, there is hardly any important technical feature common to Kot-Diji and Harappan pottery.\(^\text{20}\) The geographical distribution of Kot-Diji culture is traced in

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northern Baluchistan at the site of Damb-Sadaat, Quetta Miri, Periano Ghundai, Sarai Kala, Jalilpur, Musa Khel\textsuperscript{21}, Sraduk, Kapato and Spina Ghundai, etcetra.\textsuperscript{22}

Excavations in Rajasthan

Ahar–Banas Culture complex: This cultural complex is named after the site of Ahar located on Ahar river a tributary of Banas river in southeastern Rajasthan. There are about hundreds sites belonging to this culture complex, out of which five have been excavated.\textsuperscript{23} The excavated sites are Ahar (24° 35’ 00”N; 73° 43’ 00”E), Balathal (24° 43’ 00”N; 73° 59’ 00”E), Gilund (25° 01’ 00”N; 74° 15’ 00”E), Ojiyana (25° 53’ 00”N; 74° 21’ 00”E) and Purani Marmi (25° 08’ 00”N; 74° 27’ 00”E). These sites were located in the catchment area of Banas river and its tributaries in southeastern Rajasthan.

Ahar: The site of Ahar is located in Udaipur district. R.C.Agrawala excavated the site and exposed Black and Red Ware cultural deposit.\textsuperscript{24} The cultural deposit has been divided into three periods. The period-I is composed of blades and fluted cores and copper objects. The pottery repertoire has Black and red ware, sturdy and well fired brown ware with metallic sound, coarse red ware and painted pottery with black designs on whitish and yellowish surface and late intruder plain coarse grey ware. The antiquity includes etched carnelian beads. The architectural remains were houses constructed by stone chips and mud bricks.

Period-II: This period mainly consists of black and cream ware painted with whitish dotted lines and black on red and black on cream ware. During period third the white painted pottery occurred.\textsuperscript{25}

This site was re-excavated horizontally by H.D.Sankalia in collaboration of Rajasthan state Department of Archaeology and Museum.\textsuperscript{26}

The period-I is divided into three sub-phases IA, IB, IC on the basis of pottery traditions and dated to c.2000 B.C. by the excavator. The pottery of this phase is usually wheel made but hand-made specimen of storage jars with applied clay bands and roundels

\textsuperscript{22} F.A.Khan, 1981, op.cit. p.34.
\textsuperscript{25} IAR-1955-56, pp. 11.
\textsuperscript{26} IAR-1961-62 pp. 42-50; H.D. Sankalia, S.B.deo and Z.Ansari, 1969, Excavations at Ahar (Tambavati), Deccan College Post Graduate and Research Institute, Poona.
along with compound pots are also present. In Period IA: the cream slipped, the buff, coarse black and red, painted black and red, blotchy-grey, red slipped ware with varieties of orange, tan and chocolate surface ceramic is present. Period IB: The pottery types of the period IA is present except the cream slipped ware. One sherd of Jorwe ware is also recovered. Period IC has red washed, painted black on red, black and red, coarse red, lustrous red and the blotchy grey ware. The main shapes are dish on stand, globular pots with high neck, basins sometimes with spout, knobbled lids with triangular and clamp like knob, animal headed handles, vases with rough surface and rusticated belly, perforated bowls and basins. The surface decorations include paintings, incised and appliqué designs. The paintings are done in black and dull white colour and comprised geometrical forms. The incised decorations are confined mainly to grey and red ware and consist of group of wavy and slanting lines. The slanting lines are found in phase IB only. The applied decorations showed plain and wavy bands and roundel either plain or punctuated. The regular incising of plain bands produced the effect of cogwheel with sharp edges. This is limited to the phase IB like slanting lines.

The metal tools include copper flat axes without the socket, copper sheet, ring, celt and slag. The other findings are terracotta spindle whorls, biconical, globular and areca nut shaped beads having incised decorations. The incised decoration comprised chevron, group of wavy lines, latticed triangles, punctuated dots, slanting lines. Some carnelian, agate, faience and shell beads are also collected from a terracotta bottle like pot. The terracotta figurines include terracotta ram and a large horned bull.

Period-II: This period belongs to the early historical period and late medieval times. It is comprised NBPW and ceramic industry of Kushan times along with Indo-Greeks coins.

The metallurgical and spectroscopic analysis of the copper tools from the period-I by Hedge tells about the source of the copper ore, technique of smelting and melting. According to him copper ore (chalcopyrite) was procured from the Aravalli hills as the impurities in the copper artefacts and chalcopyrite ore of copper in Aravalli hills is same.
The copper slag procured from the site also studied to know the smelting process. The high percentage of silica in the copper slag (16.75%) in comparison to that present in chalcopyrite ore of Aravalli hills tells about the use of silica as fluxing agent to ease the smelting process. Furthermore, to know the quality of extracted metal Hedge observed the metal sample from the copper axe and copper sheet. He found that copper axe is metallurgical inferior in composition than the copper sheet. He considered it as an exception and accepted the composition of copper sheet as the norm of the extraction. The presence of negligible amount of Arsenic and Sulphur impurities in copper tools as against the higher amount in copper ore (4.28%) of Aravalli hills led him to conclude that crushed copper ore was roasted for a prolonged period at the temperature of more than 500°C as it evaporate the volatile Arsenic and Sulphur.

Gilund (25° 01’ 00”N; 74° 15’ 00”E) This is one of the largest Ahar culture site. It was explored during 1957-58 under the name Bhagwanpura (a large village near the site) and later excavated by B.B.Lal. The site is located on the right bank of Banas river at the distance of one kilometre and it measures about more than 17.5 hectare. There are two mounds, east and west, having the height about 45 and 25 feet respectively. Both the mounds has the habitation since the earliest times but the eastern mound was occupied even during the later times also. The cultural deposit comprised the Ahar chalcolithic, early historical and early medieval periods remains.

Balathal ((24° 43’ 00”N; 73° 59’ 00”E) V.N Mishra explored this site in 1962 and observed the presence of microlthic tools industry and white painted BRW. Later it was reexcavated by V.N.Mishra et al. The cultural deposit of Balathal is divided into two periods. The period-I belongs to the chalcolithic phase and is divided into three phases, I, II and III. The sub-phase-I is further divided into two sub phases IA and IB like the phase III. Period-II belongs to the early historical times. The pottery repertoire is like Ahar.

Ojiyana (25° 53’ 00”N; 74° 21’ 00”E) The site of Ojiyana was excavated by B.R.Meena and A. Tripathi to know the relationship of Ahar culture with contemporary cultures as Ojiyana is the northern most known site of Ahar culture. The cultural deposit...
of 7.5 metre has been divided into three phases on the basis of changes in pottery and architectural features.\(^{36}\)

**Phase-I:** This phase has the mud floor constructed on bedrock along with the mud brick bats. The white painted BRW is painted before the firing as only the negative is left. The bowls are less in number as compared to the other Ahar culture sites and has the paintings on the interior. The coarse RW and BSW ware is associated with the BRW. The RW has rough surface and mica as tempering material.\(^{37}\)

**Phase-II:** This phase has been divided into two sub phases IIA and IIB. The sub phase IIA has the granary, that has nicely plastered northern face. The granary have the sign of firing during as the plaster has been baked and floor of the granary have charred grains of wheat.

**Phase-IIB:** This sub phase has been characterised by big, multi chambered houses. A house having four chambers and one long narrow room with open courtyard in front, situated on a platform also unearthed. They are all surrounded by as boundary wall. There are evidences of thatched wall, stone rammed floor and mud plaster. The four chamber were divided by single mud brick wall arranged in header and stretcher style like Harappan architecture. The saddle and quern with nearby quadrangular sitting stone in situ also found. The ceramic shows the development in forms of BRW, BSW and coarse RW. The ware is decorated with pinched incised, appliqué and white painted designs. The antiquities comprised numbers of stylistic and naturalistic bull and cow figurines. A big decorated faience bead like those found from excavations of Mohenjo Daro and Harappa also recovered. The metal objects included small chopper resembling those found from Mohenjodaro, Kuntasi, Khurdi and Chitwari, copper bangles and rings. The terracotta objects comprised beads in various shapes and sizes, incised spoked wheel, whorls, hop scotches, pendent and sling balls. The stone objects included saddle- querns and mullers.\(^{38}\)


Phase-III: This phase reflects a general decline in architecture and economic activities.\textsuperscript{39}

Purani Marmi (25° 08’ 00”N; 74° 27’ 00”E) This site is located in Chittaurgarh district at the height of 25-30 metre from the river bed. The occupational deposit of 1.50 to 1.70 metre is divided into five layer. The cultural material belongs to the late Ahar culture. There is no structural remains unearthed from the site.\textsuperscript{40}

Kalibanga: The twelve feet high mound of Kalibanga is located at the left bank of dry bed of Ghaggar river, in Hanumangarh district, in Rajasthan. The excavations revealed the town planning like Harappa and Mohenjo Daro. The pottery included typical mature Harappan along with pre-defence Harappa and Kot-Diji level-1 type pottery.\textsuperscript{41} The excavations at Kalibanga resumed in next season under the supervision of B.K. Thapar. It established the presence of an early Harappan phase at the site in lower 85 centimetre deposit.\textsuperscript{42} The pottery recovered from this phase is wheel made, thin and light, red to pinkish in colour, painted with black, sometimes combined with white, on self slipped dull red surface. The paintings are mainly executed on neck and shoulder. The designs are usually geometric, some of them have parallel at the sites of Zhob and Amri. The ceramic industry has been divided into six fabric (A-F) depending upon surface treatment, manufacturing technique, firing, etc. by B.K. Thapar.\textsuperscript{43} Few sherds of Hakra appliqué, black burnished, greenish ware having knobbed and impressed surface and reserved slipped ware also present. These sherds are intrusive and forms a category in itself.\textsuperscript{44} J.G. Shaffer divided the pottery of early Harappan lineage into four fabric A-D on the basis of his work in eastern Punjab and north Haryana.\textsuperscript{45} Nigam replace the six fabric of Thapar with three fabric on the basis of surface colour: red ware, buff ware and grey ware having ill-fired and ill textured and well fired and well textured pottery in each surface colour category.\textsuperscript{46} But this division blurred the typological differentiation. Here Thapar’s
categorisation are followed as it is more elaborate and give more scope for the comparison.

Fabric-A: The ceramic was carelessly potted having irregular striation marks, thin section, light weight and red to pinkish in colour. The paintings were confines to the neck and shoulder and executed in black colour, sometimes combined with white on dull red surface. The paintings include thick horizontal band, loops fringed below or enclosed by horizontal bands, criss-cross, group of converging lines enclosing opposed triangles and rhombs, latticed triangles, ladders enclosing opposing triangles, latticed leaves having horizontal band border above, lenticulars having multiple horizontal lines border above and thick band below, segments or scallops with fillers, moustche-like bifold scroll within wavy vertical or conifer, symmetrical joined semi circle with intervening space. The triangles and enclosed semi circle are decorated with various pattern such as criss-cross, oblique and wavy lines, ladder, lenticulars, spiders, etc. The motif of radiating lines ending in solid discs, four petalled flowers, cactus like plant, square with radiating triangles at the end are used as filler. The shapes are very few, which include vases having out turned and out curved rim with disc or ring bases and bowls with tapering and convex sides.47

Fabric-B: The pottery in this category is well manufactured on fast wheel and have red slipped above the shoulder. The portion of the pots below the red slip is covered with thin clayey solution usually mixed with sand. This portion is roughened with wavy lines, tortoise shell (?) or dendrites while wet. This roughened portion was painted with naturalistic designs such as flowers, stag, ibex, bull, scorpion, duck, etc, in black colour combined with white for hatching sometimes. The red slipped portion is painted with black bands of varying width.48 The only shape, which occurs in this fabric is globular jar with different rim forms.49

Fabric-C: The pottery in this category is manufactured with well levigated and fine clayey paste and have smooth surface slipped in shades of red, plum or purple red colour. The paintings designs comprised carefully drawn horizontal bands or loops or criss-cross, border of plants, latticed loops, pendant, triangles, butterfly or double axe,

wavy vertical and fish scales. The shapes repertory show the presence of vases with ovoid and globular body with disc base, lids, straight side bowls, dishes and offering stand.  

Fabric-D: This ware in fabric D is well fired, thick, sturdy and have red slipped surface. The main shapes are heavy jars, bowls, basins or trough. The jars have a flange around the neck. The basins with ring bases are decorated with different pattern of incised designs bordered with wavy incised lines internally and single or multiple cord impression externally. The Incised designs are executed with reed-fragment when the pots were plastic hard. The flat base basins and bowls were decorated with group of wavy lines, which are executed with multi-pronged tool held with pencil grasp. At Banawali in pre-Harappan level loop and lug handles are noticed in fabric-D. Fabric-D occurs at the sites of Gurni Kalan, Lakhmir Wala, Manda, Danewala Theh, Dhalewan, Hasanpur, Raja Sirkap, Dabadi, Lohat, Siswaal and Mitathal. But the grooves were shallow on these sites. This tradition of incised designs carried to late Harappan and Bara pottery.

Fabric-E: This fabric comprised buff and reddish buff slipped wares. The main shapes are medium and large size jars with hole mouth or a flange round the rim, bowls, offering stands, dishes and small chalice. The paintings include bands, oblique lines with fronds, sigma in horizontal sequence joined by semi circle above and fillers below, border of fish scales, latticed or plain scallops or loops. Multi petalled flowers, fish, cock and stylistic butterfly or double axe within wavy vertical lines forms individual motifs. The paintings are done with black pigment and occasionally white.

Fabric-F: This fabric is represented by grey colour ware. The main shapes were dish on stand, bowls, basins and vases. The surface is painted with black colour along with white for hatching of drawings.

The early Harappan pottery is inferior to mature Harappan in fabric, finish and compactness. The pre Harappan antiquities include blades, circular and quadrangular section terracotta bangles. The copper and bronze is rare. Only one indeterminate

50  Ibid.
51  Ibid.
54  IAR-1962-63, p.27.
55  Ibid.
fragment found from the last level of this phase. A terracotta bull figurine with blocked legs recovered from the transitional phase.\textsuperscript{56}

Bagor:(25° 21’ 00”N; 74° 23’ 00” E) The excavation at this site was conducted for one season by V.N.Mishra et al., Deccan College Pune and University of Heidelberg. Later it was re-excavated by Deccan college, Poona for two seasons under the supervision of V.S. Shinde. The site cover an area of about 6400 square metre and have 1.60 metre thick cultural deposit which is divided into two periods. The period-II belongs to early historical times. The period I is further divided into three phases.

Phase-1: This phase comprised large number of microlithic tools and ill baked pottery. At the lowest part of this phase occurs only microliths of highly evolved geometrical character. The microliths industry is uniform throughout. The main tool types are blunted backed blades, obliquely blunted blades, lunates, triangles(mostly scalene but some isoscalene forms are also found), trapezes and points. Among trapezes, those made on narrow section of blade or transverse arrowhead are common which is not very common in Indian microlithic industry. The retouch and use marks were visible on many tools. Flake and core tools are rare. The chert, quartz and occasionally chalcedony have been used for their manufacturing.

The pottery of this phase is ill fired, having gritty micaceous fabric and dull red slip in patches. Originally the slip appears bright red in well preserved specimen. The shapes comprised large dishes and pans, decorated on exterior by incised designs. The incised designs include many lines, group of diagonal, chevrons, sometimes in association of appliqué band with cut notches. One bead of carnelian and agate each also found.\textsuperscript{57}

Phase-II: This phase show the improvement in material culture. The metal tools were introduced. The stone tools were still in use but their number decline. The main ceramic is ill fired, gritty and dull brown in colour. The shapes are open bowls with round base, large shallow dishes and small broad mouth handis. Some pots have symmetrical shape and uniform in thickness, perhaps indicating the use of wheel. The linear and geometrical incised designs occurred on outer surface. Red ware with uniform oxidised

\textsuperscript{56} Ibid.,p.43.
core is also present but in less frequency. Floor paved with schist slab, gneiss and quartz pebbles occurred at successive levels.

The antiquity includes beads of banded agate, carnelian and bone, saddle quern, pestles, sling balls, stone hammer and mace head. The architectural activities are denoted by stone paved floor and circular alignment of the stone telling about circular huts.\textsuperscript{58} Three copper arrow heads are found from one of the grave having extended burial. No other grave goods or associated material is obtained from the burial. These arrowheads are hollow type having two holes near the base. One show prominent barb like those recovered from Harappan sites in Sind, Punjab and Baluchistan including Kalibanga, though Harappan specimen did not have holes. The chronology suggested for Phase-I was 3000-2500 B.C. and for Phase-2 around 2000 B.C.\textsuperscript{59}

Phase-III: The cultural deposit is about 35-75 centimetre thick and it occurs in the central part of the site. The cultural material comprised few microliths, small bones, wheel made pottery and iron tools. Period-II belongs to the iron age.

Sothi (29° 11’ 00”N;74° 50’ 00”E) The site of Sothi is located in Drishadvati valley. It was explored and excavated by A.Ghosh in 1951-52. K.N Dikshit reopened it in 1978 for determining the stratigraphy of the site.\textsuperscript{60} The cultural deposit has been divided into two phases. The lower phase have mainly Sothi ware which is akin to Kalibanga-I. The upper phase reveals the mature Harappan features.

Noh: The site is located about six kilometre west of Bharatpur on Agra road. The 13.50 metre thick cultural deposit has been divided into five cultural periods. At the lowest level sherds of OCP, BRW and grey ware found. The BRW was different from those dig out at Ahar. There was no separate deposit of OCP at this site.\textsuperscript{61} The excavations at this site reveal the separate phases of OCP, BRW and PGW in contrast to the previous excavations. The deposit of the OCP is .90 metre and it is composed of brownish clay mixed with kankar. The OCP cultural material shows the presence of handle pieces and incised sherds like Atranjikhera. The colour of the pottery is orange to

\textsuperscript{58} IAR-1968-69,p.27; 69-70,pp.32-33.
\textsuperscript{59} op.cit.,p.28.
\textsuperscript{61} IAR-1963-64,p.28; 71-72,p.42.
deep red and it is wheel thrown having rolled edges. Few fragments of carinated bowls and basins are also found.\textsuperscript{62}

Jodhpura: The site is located in Kot Putli tehsil, in Jaipur district. It is situated on the right bank of Sahibi river and locally known as Ghartool Ghat. The excavations revealed five cultural periods at the site extending from OCP to Sunga- Kushanas times. Period-1 was represented by OCP. Its cultural deposit is about 1-1.30 metre and it is composed of yellowish earth mixed with kankar, which is free from water logging. The ceramic is wheel thrown and orange to deep red in colour. It does not show the signs of ill firing, porosity, rolled edges and powdery surface. The commonest shapes were bowls, vases, knobbed lids and dish on stand. A number of sherds show thick red slip and faint marks of painted parallel bands. The incised decorations comprised triangular notches between parallel lines, wavy and rectangular lines. The other findings include terracotta and stone beads, and indeterminate pieces of copper. Period-2 comprised BRW similar to those exposed at Noh and it differ from the BRW of Ahar.\textsuperscript{63}

Ganeshwar: The site is located in Neem Kathan tehsil of Sikar district in Rajasthan. It revealed homogenous culture deposit of 3.65 metre belonging to copper age. Pottery, microliths and copper tools are recovered from this site. The microliths are of highly evolved geometrical industry. The main types of microliths are microblades, large blades, scrapers made on flakes, burins, blunted backed blades, obliquely blunted blades, lunates, triangles, trapezes and points along with flakes and cores. The raw material used for these tools is usually quartz, chert, garnet, chalcedony and occasionally jasper. Nodules of raw material are obtained from the veins in gneissic formations and limestone outcrops, as they are absent in the bed of the river at this place. The pottery included all the types obtained from the Jodhpura, in Jaipur district. The ceramic repertoire is represented by two distinct traditions: thin sectioned, dull red and wheel made ware, which have painting in black with white strokes like the pre-Harappan Sothi tradition. Black painted OCP pots and vases with vertical handles between rim and shoulders appeared first time. The paintings are confined mainly to the rim, neck and shoulders with some exception where paintings occur even below the belly of the pots. The paintings designs included thick band on the neck, thin parallel lines on the shoulders, horizontal band between two wavy lines, oblique parallel lines and crescent comb pattern. The

\textsuperscript{62} IAR-1964-65.p.34;70-71,pp.31-32.  
\textsuperscript{63} IAR-1972-73,p.29.
pottery also displays a number of incised designs. The incised designs included oblique strokes on applied chords, deep dashes, crescent like notches, oblique and straight lines (single or in group) and check pattern. Both deep and shallow incised designs are available. Some pots sherds also show graffiti marks such as ladder, trident and hatched quadrangle. The other findings comprised bone and stone beads, querns, mullers, pestles and bone spikes. The copper objects include arrowheads, spearheads, chisels, fishhooks, razors, blades, rings, bangles, hair pins and antimony rod. A double spiral headed copper pin having parallel in central and west Asia during third millennium BC also unearthed. The structure found included mud platform with partition, storage pits and post holes on the floor. The presence of burnt material at different floor levels suggested firing at the site.

P.L. Chakravarty re-excavated the site to ascertain the evolution of OCP culture at the site. He divided the cultural deposit in three periods. The period-III belongs to the iron age.

Period-I: This period has 30 to 50 centimetre thick cultural deposit. It yielded geometrical microliths manufactured mainly with quartz and chert. They are manufactured without using crested ridge technique, which was omnipresent in the contemporary Indian microlithic industry. The large waste material at the site elucidate that tools are manufactured at the site itself. The bones of small animals are recovered from lower parts of this level predominantly and the size of the bones increased towards the upper parts of this phase. The large bones are charred and split open for the extraction of bone marrow. The copper is absent in this phase.

Period-II: The period-II is further divided into two phases on the basis of cultural assemblage. This phase show the introduction of pottery and copper.

Excavations in Uttar Pradesh

Mathura: The excavations at Katra mound (Mathura) was conducted by M. Saran and M. Venkatrammaya. Here the five cultural phases were exposed starting from PGW followed by NBPW, Kushanas, early historical and Gupta periods.64

64 IAR-1954-55, p.15.
Alamgirpur: The site of Alamgirpur is located about three kilometre off the left bank of the Hindon river, a tributary of the Yamuna river in Meerut district of Uttar Pradesh. Y.D.Sharma exposed four cultural periods at this site with break between all of them. These are Harappan, PGW, NBPW and early medieval period. The Harappan period show the features of mature phase and have cultural deposit of six feet. A trough with cloth impression is found. Some troughs have incised inscription of two symbols. The antiquities include copper and bronze pins and blades, beads and bangles of steatite and faience. The beads of semi precious stones along with a terracotta bead with gold plating also collected. The pottery shapes include dish on stand, pointed base goblets, straight sided dishes, cylindrical vases, beakers, shallow dishes with incurved rim, and perforated jars. The painted designs show the similarity with Harappan. A fragmentary body of humped bull figurine also recovered.\textsuperscript{65}

Jakhera: The second mound of Jakhera, located in Etah district in U.P, revealed four folds cultural sequence. The period-I yielded OCP found mixed with tiny bits of BRW and BSW. They were collected from hard yellowish calcareous alluvium. The sherds did not represent regular habitation.\textsuperscript{66}

Ambkheri: It is a single OCP culture site in Saharanpur district. The pottery encountered was ill fired and slip did not form the homogenous part of the fabric. The pottery was divided into thick and thin fabric types. The thick fabric sherds included big trough, bowl like lid with central knob, dish on stand, vases with flanged rim and oval body, vase with chord design, horizontal raised band on exterior and mat impression, ring stand, basin with undercut rim. The thin fabric type comprised long neck flask with flaring rim and flat base, bowl with slightly outturned rim and bulbous body, lid with central knob, miniature cup and vases. The washed grey ware is was associated with this pottery. It was represent in all fabric and has limited shapes of miniature pedestalled cup and vases. The antiquities included a carnelian bead, terracotta toy cart with central hub, fragmentary disc with oval depression, figurine of humped bull, stone saddle quern with pestle. The remains of a brick kiln and hearth also found.

This pottery differs in form but resemble in fabric with the pottery recovered from Atranjikhera and Bahadrabad. It resembled with Harappan at Alamgirpur, Bara, Bragaon,

\textsuperscript{65} IAR -1958-59,p.52.
\textsuperscript{66} IAR-1985-86,pp.79-80.
Rupar in having dish on stand, chord impressed and incised decorations, lid with central knob, terracotta discs and humped bull figurines.67

Atranjikhera: The site was located on the right bank of Kali nadi in Etah district, in Uttar Pradesh. It was excavated by R.C.Gaur. Here six periods of occupations were unearthed. The upper five periods belonged to PGW, early historical and medieval periods. The lowest period-1, one metre deposit belonged to OCP culture. The pottery included red slipped and wavy and parallel lines incised ware. Some sherds even show Notched designs. The pottery is similar to the pottery found at Hastinapur.68 The next season excavations here revealed that the deposit of OCP was .80 to 1.50 metre. The pottery was ill fired, porous and thick section, rolled edges and with bright ochre wash having tendency to rub off. The main shapes were dish on stand, variety of handles, channel like spout of large vessels, deep basin and bowls, vases with chord like collar at neck. The incised decorations included lines on applied chord, dashes, deep dots and notches, arranged in straight, oblique, angular and wavy lines. This pottery has striking resemblance with those found at Hastinapur, Manpur, Bhatpura, Ambkheri, Bahadrabad. The antiquity included lower part of crushing stone and a terracotta bead.69

Baragaon: The site was excavated by M.N Deshpandey. It is located on the left bank of Maskara, a tributary of the Yamuna. The occupational deposit was about one metre. It revealed Harappan pottery along with unslipped OCP. The principal shapes were dish on stand, lid with central knob, Indus goblet, ring stand, miniature pedestalled cup, long neck globular flask, vases with chord impressed designs and incised bands on the exterior. The incised decorations included deeply cut chevron, small oblique strokes and wavy lines. The other finds were copper rings, chert blades and weights, terracotta discs with finger marks, terracotta and faience bangles, latter with oblique incised decoration, cart wheel with central hub. Some painted sherds were also found. The paintings included cross hatched triangles set in horizontal bands and wavy lines on upper parts and horizontal bands only on lower part of the pot. No architectural feature was encountered during the excavations.70

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67 IAR -1963-64, p. 56.
68 IAR-1962-63, p.34.
69 IAR-1963-64, p.47.
70 IAR-63-64, pp. 56-57.
Sringverpur: the site was excavated by B.B. Lal. During the second season work, at the lowest level, a 30-60 cm. cultural deposit of OCP was found embedded into compact yellowish clay. The pottery industry may be divided into two categories, one of well levigated clay, well fired and nicely formed and other coarse fabric, ill fired and indifferently potted. Occasionally both the varieties have slip. The few specimen of former variety have been found to have geometrical paintings executed in black colour. The painting designs included simple lines and hatched diamond. A few sherds have simple raised bands and shallow incused designs including comb pattern and parallel lines. The major shapes were jars with prominent outturned rim, bowls with featureless and everted rim, shallow basins with horizontal splayed out rim, vases with disc base and platters, fragments of dish on stand with drooping rim, bowls and basins with channel or tubular spout or with loop handles, lids with either finger made depression in the centre or curved knob. Structural features were represented by burnt earth with reed impressions, suggesting wattle and daub houses. A flake of carnelian bead and pottery discs with or without central perforation were also found.71

Hulas (29° 42′ 00″ N; 77° 22′ 00″ E) K.N. Dikshit excavated the site of Hulas, situated in Saharanpur district. The height of the mound is about 15 feet from the adjoining area and it covers an area of 5.5 hectare having longer axis in north south direction. It revealed two folds cultural sequence, lower typical Harappan and upper PGW. The cultural deposit of Harappan deposit was about 1.4 metre thick. It comprised both typical Harappan and non-Harappan ceramic in this phase. The new forms included dish on stand with drooping rim, jars with horizontal splayed out rim, bowl like lid with central knob and few miniature pots with a ring base or pedestal led base. The black painted motifs show both geometrical and naturalistic paintings. The geometric motifs included simple band, triangle, row of hatched triangles within horizontal bands and chains within the bands. The naturalistic motifs included leaf patterns and dancing peacock. The incised decorations comprised set of wavy lines, sigma, chevron pattern (flying bird) and chord impressions on limited numbers of the sherds. A shred of compartmented incised decoration on internal side and applied chord with incised decoration on the exterior also encountered. A pot with a hole in the centre and incised wavy lines between parallel register was of its own kind. The naturalistic designs were pipal leaves. The terracotta objects included beads, bangles, balls, toy cart wheel with

raised central hub and oval and circular terracotta discs with pointed ends, though circular
discs with deep finger marks in centre were also encountered. Few terracotta objects of
indeterminate shape with two bifurcated curved terminal, in different shapes also
encountered. This type terracotta objects also found from the sites of Bara, Sanghol,
Bhagwanpura and Bargaon. The other findings collected were beads of agate and faience,
bangles of faience, bone points, stone querns and pestles. The metal objects findings were
fragmentary copper bangles, chisel, spiral rings, wires, needle with eye and fish hook. The
structural features included fragmentary bricks with finger marks and reed impressed
burnt clods. The stone objects included pestles and querns. The beads of agate and
terracotta were also collected. The beads, bangles and pots of faience were included into
the findings. TL date from the upper level suggested the date of 323(+280) i.e. 1280 BC.

Pariar: B.B.Lal excavated the site of Pariar, in Unnao district. Trench PRR-3 revealed 60 cm. thick cultural deposit of OCP, BRW and BSW culture intermingled. This
is composed of loose brown earth and sand with occasional hard clods. The shapes were
represented by horizontal splayed out rim jar s. It appears that these sherds were wash out
to this place from nearby habitation site which is yet to explore.

Kamauli: The site was located 3 kilometre, in the east of Varanasi, near the left
bank of the Ganga. It revealed two fold cultural sequence. The period one revealed sherds
of red ware with incised designs, having the tendency to rub off the surface. A parallel
side chert blade was also found.

Ahichchhatra: The excavations were resumed by N.R. Banerjee at the site of
Ahichchhatra. At lowest level, OCP is found. It is composed of compact and hard clayey
soil having silty look and feel with deposit of 60 cm. The OCP is thin in fabric with red
slip, though its slip has lost, medium to fine in texture. The shapes were dish on hollow
stand, wide mouthed jars with slightly concave but high neck and flaring rims forming
almost a flange, with a foot ring, with a flanged rim and spout and with a concave neck,
with slightly ribbed exterior, The bowls with a slightly averted rim and a blunt ridge on
the interior. Basins with thickened horizontal rim deeply notched on the exterior, and with
a thickened and protruding rim, with a concavity at neck and externally bevelled and

72 IAR-1978-79, p.60; 79-80, p.82; 80-81, pp.73-76, 81-82, pp.72-74;82-83, pp.100-103.
73 IAR-1979-80, p.61.
74 IAR -1963-63, p.58.
thick rim and with thick and flanged rim. The dish on stand show only connection with Harappan.\textsuperscript{75}

Baharia: The excavations were conducted at find spot of copper harpoon and a new type of sword. The sherds found were pale red in the cultural deposit of about one metre. The shapes were vases with beaded rim and concave neck, vases with flaring rim having a shallow depression on the interior and short constricted neck and globular body, vases with splayed out featureless rim, vases without turned externally beaded rim. This pottery has striking similarity in fabric, shape and texture with Atranjikhera.\textsuperscript{76}

Lal Qila: The site was excavated by R.C.Gaur. It was located in Bulandsdhahr district in U.P. It was single culture OCP site. The cultural deposit varies from 25 cm. to 1.90 metre with three distinct layers. The pottery did not turned out to be of rolled edges, ochrous to brownish in colour. They were wheel made and well fired and red slipped, which got peeled off leaving ochrous core. The common shapes were ring based vases with outturned flat and beaded rims, vases with outturned rims, occasionally horizontally splayed out and globular body, knobbed lids, basins, bowls in different shapes and sizes, collared jars high necked jars, miniature vessels, pieces of dish on stand. On bowl show the traces of separate legs. Basin with strap handles on the inner base, one of the handle being decorated by rope pattern. The black colour paintings on red slipped surface comprised rim bands, parallel lines, strokes, dashes, loops, meanders, etc. Incised decorated sherds were limited in number. The incised designs included oblique strokes, thumb nail impression, grids of verticals and horizontal. Sometimes oblique strokes were executed in the applied band at the maximum girth of the pot. The chief graffiti marks were ladder, trident and cross. The Some appliquué decorations and graffiti marks were also encountered. The antiquity included beads and bangles of terracotta, discs of pot sherds, pestle and a broken piece of crucible.\textsuperscript{77}

The metal objects included a fragmentary celt and arrowhead, a pendant, beads, etc. The other noteworthy finds were two terracotta figurines, sixteen terracotta bangles, seventeen terracotta marbles both plain and incused, fifteen biconical terracotta and two stone beads, ten terracotta toy wheel, eleven stone rubber, five terracotta discs or hop

\textsuperscript{75} IAR-1964-65,pp.39-42.
\textsuperscript{76} IAR-1966-67, pp.43-44.
\textsuperscript{77} IAR-1968-69, pp.35-37.
scotches, two small shallow querns, twelve bone implements including points, arrowheads, net sinker and skin rubber.

The female human figurines are hand modelled. One of them was well preserved and has narrow receding forehead, elongated neck, bulging eyes, punched parrot like nose, depressed cheeks, broad jaws with protruding lips separated by horizontal slit and prominent breast. There was perforation at shoulders for attaching arms. The terracotta bangles were of different shape and size. They show triangular, square and plano-convex sections. One of them show sixteen parallel incised strokes and pin holes in various patterns. The terracotta wheel were broken, one of them was made up of pot sherd. Two of them have pin hole decoration.78 One of the terracotta bead showed incised horizontal strokes within two parallel lines, in the central part of the body while another showed seven pointed star on one side and six pointed star on other side. Some indeterminate terracotta objects were also recovered during the excavations.79

Saipai-Lichchwai: The site is located in Etah district in U.P. L.M.Wahal excavated at the find spot of copper hoard. The copper hoard included hooked sword, anthropomorphic figures, celts, bar celts, harpoons and bangles. The ceramic exposed was OCP. Moreover, during trial excavations one more copper sword of copper hoard type was found in one metre cultural deposit.80 During next season excavations one more harpoon was found at the depth 45 cm. the ceramic complex included jars with flaring rim, bowls and basins sometimes with handles and spouts, ring stand, fragments of stand possibly of a dish on stand, lids, deep basins. Many of the sherds have red slip and black painted linear designs like criss-cross. The pottery is like that unearthed at Rajpur Parsu, Bisauli, Hastinapur and unlike the Harappan. The chief feature of the ceramic is incised decorations mainly on the exterior upper parts of the pots. It included rows of dot and dashes, series of triangular compartments enclosing rows of dashes above a thick notched band. The other objects of importance comprised balls, pounder, rubber, quern and pallets of sand stone, a chert blade and a chalcedony flake. A piece of kiln fired brick and brunt

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79 op.cit.,p.40; IAR-1971-72,pp.45-46.
80 Ibid. In IAR-1970-71,p.38. the copper object found during the trial excavation is mentioned as hooked spearhead.
clod with reed impression suggest the wattle-daub houses. The bones of cattle were found and represented by *Bos indicus*. Signs of permanent habitation did not existed.\(^{81}\)

Kaseri: Romila Thapar did excavations at the site of Kaseri in Meerut district in U.P. The site was located on the right bank of Hindon river, a tributary of Yamuna. The excavations revealed six periods in 3.5 metre cultural deposit ranging from first half of second millennium B.C. to early medieval period. The period-1 represented the OCP culture having affinities with OCP of Ganga–Yamuna doab.\(^{82}\)

Daulatpur: R.C.Gaur sunk seven trenches at the site of Daulatpur in Bulandshahr district in U.P. The site was temporary camp on the southern bank of a big pond. The pottery types included bowls, basins, vases, dishes, jars, troughs, dish on stand, knobbed lids, spouts and channels, handles and few miniature pots. Bowls and cylindrical troughs with tapering sides on stand were noteworthy finds. It was wheel made, sometimes fine slipped and decorated with paintings and other devices. The findings of incised decorations, mostly in the forms of parallel lines, were not in large number. It was not influenced by Harappan pottery traditions like Lal Qila, Atranjikhera and Saipai. The antiquity included stone balls, weights, querns and pestles, terracotta balls, beads and wheels. The structural features in successive floors with post holes, mud clods, plaster pieces of thatched roofs, and brickbats indicated wattle and daub houses. The arrangements of post holes elucidate rectangular and semi circular houses. The red fired patches on surface and hearth also found.\(^{83}\)

Excavations in Haryana

Mirzapur: The site was excavated by U.V.Singh of Krukshetra University. It yielded remains of Harappan culture. The typical Harappan shapes of perforated Jars and beakers were absent, while goblets were rare. Vases with painted and incised decorations were also revealed. The metal objects included copper chisel, needle, pin, rings and fragments of a parsu. Beads of terracotta, faience, steatite and semi precious stones were also collected. Other findings included triangular and circular terracotta discs, bangles, single hub wheel, painted snake figurine, toy cart frame and faience bangles. The stone

\(^{81}\) *IAR*-1970-71, p.38; 71-72, pp.46-47; B.B.Lal, 1971-72 ‘a Note on Excavation at Saipai’,*Pura*, vol.5, pp.46-49.

\(^{82}\) *IAR*-1969-70, p.43.

\(^{83}\) *IAR*-1984-85, pp.86-88.
quern and pestles were also found and terracotta bull with long horns and pinched hump.\textsuperscript{84}

Siswal: (29° 10’ 00” N; 75° 30’ 00” E) The site of Siswal is located in Hissar district in Haryana. It was excavated by Suraj Bhan in 1970\textsuperscript{85}. Here he encountered the material assemblage similar to Sothi and Kalibanga lowest levels. The trench sunk measure 2x2 metre. The natural soil reached at 1.25 metre. It was composed of yellow silt mixed with considerable amount of kanker. The cultural deposit comprised five habitation level without any structural evidences. The cultural deposit classified into two phases namely Siswal-A and Siswal-B.

The Siswal-A: It comprised all of the six fabric (A-F) of Kalibanga-1 ware and it occurs in layers 2 to 5. It show the sign of evolution in the upper levels. The pottery is wheel thrown. Fabric-A comprised medium to coarse fabric, slow wheel made, dull red in colour, differently fired with grey to red core, thin to medium in section. The pottery was painted with black or chocolate colour over matt surface ranging from light red or yellowish to pinkish red colour. Bi-chrome effect was generated by using white colour along with black. The main shape included vases with short everted, out curved or out turned rim, bowls with convex or tapering sides, bowl or dish on stand, handled vase and perforated jars. The fabric-B it is well fired, medium to thick sectioned, medium fabric, having lower parts rusticated and sometimes having finger marks forming the ridges. The fabric C is similar to fabric C of Kalibanga. Fabric-D comprised thick, sturdy, wheel made, well fired, red colour and decorated with incised designs on the interior. The fabric E and F is rare at the site.

The paintings designs repertoire included zig-zag, horizontal zig-zag, vertical lines, curry lines, converging oblique strokes, suspended loops, fish scales, cross hatched diamond, opposite triangles, ovals, arcading, sigma, fish and arrow. The painting is mainly executed on rim, shoulder and neck of vases, jars, cups, bowls, etc. on the exterior. Paintings were met also on the interior on the bowls. The naturalistic designs like birds, plants, flowers, moustache like bifold design, \textit{trishul}–like motifs are absent at Siswal-A as they are present at Kalibanga. It may be due to the small scale of excavations. This pottery shows further evolution in later periods. Moreover, Siswal has lesser varieties in

\textsuperscript{84} IAR-1975-76,p.18.
paintings than Kalibanga\textsuperscript{86}. Linear and geometrical incised decoration on the exterior also occurs on some decorated sherds of fabric-A. The main designs include oblique and flowing, horizontal grooves, latticed, chevron and cord designs. They were executed with 4,6,7,8 teeth sharp edged instrument.\textsuperscript{87}

Siswal-B: comprised the cultural material similar to Mitathal-1 and it occurs in layer 1 and 1a. The ceramic industry composed of Kalibanga-I and Harappan wares. The Harappan appears during this phase though pottery of Siswal-A continue to occurs. The Harappan pottery is limited in number. It consisted of storage jars with flanged rim, S shaped jars with flanged rim, vases with footed and narrow pointed base, perforated jars, dish, dish on stand with short out curved rim and broad squat stem. The pottery has medium fabric and potted on fast turning wheel. It was slipped with bright red colour in storage jars and dull red in other vessels.\textsuperscript{88}

The antiquities comprised stone saddle-quern and pestle, terracotta bangle pieces, bi conical truncated beads, finger marked oblong sling ball, discs with tapering ends and triangular cakes.\textsuperscript{89}

Mitathal:(28° 50’ 00” N;76° 10’ 00”E) The site excavated by Suraj Bhanin 1968. It is located 10 kilometre northwest of Bhiwani and 1.5 kilometre west of the village. The site was composed of two mounds. The trenches were sunk on both the mounds. The cultutal material is categorised into two period. Period II is further divided into two phases namely IIA and II-B.

Period-I: It is comparable to the late Siswal or Siswal-B. The ceramic industry comprised all the six fabric of Kalibanga along with few sherds of mature Harappan. The white colour along the black pigment, which is the characteristics of Kalibanga-I and Siswal-A is absent. Few hand made, crude, chaff tempered sherds were also encountered. The mature Harappan shapes included perforated jars, vases with pointed base, dish and beakers. They pottery and wheel thrown, well fired and fine fabric and generally devoid of the slip\textsuperscript{90}.

\textsuperscript{86} Suraj Bhan,1975, \textit{Excavations at Mitathal(1968) and Other Explorations in the Sutlej-Yamuna Divide}, Kurukshetra University Kurukshetra, p.104.
\textsuperscript{87} Op.cit.,p.108
Period-IIA: during this sub period mature Harappan ceramic industry dominate over late Siswal tradition. The late Siswal ware occurs in good quantity but in subordinate position. All the six fabric noticed. The Harappan pottery is red ware of medium fabric, well fired and manufactured over fast wheel with well levigated clay. Generally, pottery is red slipped and painted with black bands at the rim or shoulder. The typical Harappan shapes such as storage jars with wide mouth and projected rim, jars with recurved rim and globular body, vase with beaded rim, raised neck and globular body, vase with outcurved rim, ribbed shoulder and narrow neck, dish on stand with recurved base, shallow dish on stand with projected rim, carinated shoulder, tall stand with or without drum, dish with nail headed rim and flat base, vase with pointed base, beaker and perforated jars, etc. The s shaped jars, handled cups and scored goblet are absent.

The painting comprised geometrical and linear designs in black colour on red surface and lack in variety. The paintings show the presence of horizontal, zig-zag and wavy lines, latticed design, cross hatched triangle with suspended vertical lines, dots, stag, scorpion, loops, hatched leaf design and stalked lotus. The decorated designs were cord impression, notches and incised lines.\(^{91}\)

Period-IIB: The ceramic industry of this period represents both late Siswal and Harappan ware with change in designs, fabric, shapes, surface treatment and decoration. The distinction between them disappears. The Harappan pottery show decline in style of paintings, surface and fabric while late Siswal ware shows some improvement and come to imitate the late Harappan pottery in fabric, slip and surface treatment. The classical shapes falls out of use and some shapes transformed such as drum of tall stem changed to flange. The Siswal ceramic tradition improve in quality and occurs in fairly good number. They were manufactured on fast wheel with well levigated clay. they main shapes comprised vases with flat loop handle, basins with loop handle, vases with flaring oblique cut rim, oval or globular body with or without flat base, vase with flaring rim, bowls with convex or carinated profile, flaring or flat top rim and bowl on stand. Few sherds of cemetery-H also encountered such as thin flask, storage jars with collared or recurved rim, dish on stand with sharp carinated rim, and basin with beaded rim and disc base.

The paintings comprised geometrical and linear designs in black colour on red surface. The number of designs increases and they were executed coarsely. The main

designs included horizontal, zig-zag and wavy lines, latticed design, cross hatched triangle, hatched or cross hatches diamonds, cross hatched hide design, chevron, arcing design between horizontal lines with intermediary surface latticed, loop, dot, diamond and dot, circlets with dot in center and frond on outside, lotus flower, plants and maltese square. Incised decoration was introduced in sub period. It imitate the painted linear designs. They included flowing horizontal lines, vertical lines, converging oblique lines, oblique strokes, mat design, cord impression, finger lines, oblique notches in rows, horizontal lines superimposed by vertical and oblique lines like Bara. They were executed with sharp edged tool. These paintings and designs resemble Ropar-I, Alamgirpur-I, Bara, Bargaon, Dher-majra, Sanhgol-I, Chandigarh, Lothal-B and Rangpur-II.92

Balu: the site was located in Jind district in Haryana. The cultural deposit here was about 4.5 metre. On the basis of ceramic industry it has been divided into three phases A, B and C. Phase-A represented by pre Harappan pottery akin to late Siswal ceramic in one metre deposit. Only terracotta bangles were represented in antiquity. 2.2 metre thick deposit of phase-B was characterised by the introduction of mature Harappan features in pottery, antiquities and architecture. Phase C has a deposit of 1.3 metre. It revealed the early Harappan and Harappan pottery traditions. Late Harappan pottery types and designs comparable to Bara and Mitathal-B appeared during this phase. Antiquities of previous phase continue. Few shell bangles were also recovered. Harappan There was a clear break between pre Harappan, Harappan and Late Harappan. Antiquity included grounding stones, pestles, triangular terracotta discs, beads and bangles. Copper arrowheads and beads of steatite, faience and stone was also found. One small circular steatite seal showing four concentric circles with across in the centre was recovered from post defence wall phase.93

Banawali: The site was located in district Hisar, in Haryana. It was excavated by R.S.Bisht during 1974-77. It exposed three periods, pre Indus, Indus and post Indus. The period-1 was represented by .60-.80 metre deposit over brownish yellow soil. The sun dried bricks measuring 30x30x10, 24x24x19, 27x27x9 centimetre along with, in the characteristics ratio of 1:2:3 encountered. It revealed two structural phases. In next stage fortification wall with two structural phases started. It represented by 1.60 metre debris. It was obliquely oriented in cardinal directions. The period-II was represented by 4.32 metre

93 IAR-78-79,p.69; 84-85,p.20; 85-86,pp.29-30; 86-87,p.34.
deposit of classical Harappan remains, pottery and antiquity, along with pre Harappan traditions. A burnished grey ware vase decorated with two applique bucranian motif each one made on diametrically opposite fields. It is closely akin to bovine heads occurring in paintings on pre Harappan pots from the Kot-Diji, Kalibanga, Sarai Khola and Burzhom. A clay model of plough needs special attention. Other findings included terracotta model of, solid and spoked wheel, spokes painted with white and black lines, incised designs on a animal figurine, tortoise shell, Tc. discs with incised human figurine, an ass, male and female figurines. Nine seals and two sealings on clay lump are also found. The mother goddess figurine, pieces of gold ornaments, etched carnelian and lapis lazuli, steatite and terracotta beads as well as glazed beads and clay crucible fragments are also noticed. Terracotta bangles in grey fabric with incised pattern and red one with black paintings, a bone handle probably for drill bits and copper arrow head and fish hook each were also found. Period-III started after a gap and represented by .50 metre cultural deposit of post Indus times. The ceramic assemblage included pottery akin to Bara, Sanghol-II, and Mitathal IIB in typology, paintings and fabric. Medium size pots with thick deep undercut rim and globular body are also found. They were chocolate bichrome ware decorated with simpler designs done in deeper tone of chocolate colour. The field between painted bands and motifs are filled in with white colour mixed with a little amount of greenish blue pigments. The hand made and dull red ware having incised and pinched decorations continue to occur as well as some forms and fabric of pre Harappan tradition. A vase, in situ, embedded in a floor containing chart weight, agate bead, small stone objects and some in determinate shape terracotta pieces.94

Bhagwanpura: The site was located in Kurukshetra district in Haryana. J.P.Joshi excavated the site. The cultural deposit of 2.70 metre was divided into two-fold cultural sequence, period-1A and period1B. The period-1A revealed the late –Harappan cultural remains and period 1B both late Harappan and PGW from the same level. Late-Harappan ceramic industry comprised sturdy red ware akin to that recovered from Bara, Bahadrabad, Daulatpur, Mitththal-IIB, Siswal-IIB and Raja Karan ka Qila. Harappan and late Harappan related thick grey sherds are also noticed. Incised wares of pre-Harappan traditions were present throughout this phase. The common shapes were dish on stand, cup on stand, lid, lid cum bowl, bowl, ring stand, drooping rim dishes, cup, basin, high necked jars and button base goblet. The painted designs revealed both geometrical and

94 IAR-1983-84,pp.24-28; 85-86,pp.32-34;87-88,pp.21-27.
naturalistic motifs and it included thin and thick horizontal bands, criss-cross and fish like patterns, filled in triangles, row of opposite triangles, hatched triangles, arches filled with oblique lines, papal leaves. Some pot sherds have graffiti marks akin to Harappan stock. The other findings included terracotta human figurines, hubbed wheels, beads and bangles, faience beads and bangles. The beads of semi precious stones are also recovered. Rods of copper are also noticed. Two structural phases were recognised.  

Kunal: J.S.Khatri excavated the site of Kunal, in Hisar district, in Haryana. The height of the mound was about 4 metre and covers an area of 600 square metre. The cultural material revealed three periods. Period-I was composed of pre Harappan elements. It included both hand and wheel made, red to pinkish in colour, thin and thick fabric, black painted sometime in combination of white colour like Sothi pottery on self slipped surface. The characteristic paintings of this pottery were black band on the neck and geometrical designs on the shoulders. All the six fabric of Kalibanga as well as a new type of ceramic industry revealed at lower levels in this period. The new ceramic is unknown from pre Harappan levels. It included black and red ware and buff red ware. The buff ware was wheel made and occasionally hand made with rough texture and surface having bichrome paintings. The buff surface are painted with white, tan and chocolate designs of multiple rows of vertical and horizontal lines. It included various sizes of lota shaped jars. The black and red did not have paintings. It included small jars with flaring rim and bowls with straight rim. The mud bricks in the size ratio of 1:2:3 are used in construction. Large number of pit lined with clay and mud bricks are noticed. The antiquity revealed beads of steatite, lapis lazuli, agate, carnelian and terracotta, bangles of terracotta shell, faience and terracotta, geometrical designed steatite seal. The other findings included copper arrowheads, a chert blade, an antler and grinding stones. At lowest level terracotta pallet were in use for grinding and pounding. In period–II Bara culture appeared on the scene along with the previous period culture. This pottery revealed diversity in slip and paintings. The incised decorations included horizontal, wavy and grooved lines. The main shapes were dish on stand, vases, bowls, storage jars and basins. The antiquity revealed beads of terracotta, carnelian, agate faience and steatite, bangles of faience, chert blade and a copper arrowhead. Mud brick structures are also noticed in this phase. The period-III was disturbed and included dull red ware.
painted in black colour. The shapes included rough fabric inturned rim bowls and carinated handi. 96

Kayatha cultures complex: This culture complex is located largely in the parts of fertile Malwa region of Deccan plateau. There are about 40 sites recognised in the valley of Chambal and its tributaries.

Kayatha: The site of Kayatha is located on the bank of Chhoti Kali Sindh river. The ceramic industry of Kayatha comprised wheel thrown, well-fired, sturdy and fine pottery painted with linear motifs violet colour on thick brown slip associated with red painted buff ware and a red combed ware 97. The microlithic tools manufactured by locally available chalcedony represented in large number. The antiquities comprised two necklaces made up of agate and carnelian beads. The one necklace has 175 and second one has 160 and both were placed in a pot. 40000 micro steatite beads were also found in another pot. A parallel can be drawn with micro steatite beads late Harappan cemetery-H. 98 The copper metal present in the form of two mould casted axes/celts which have round indentation marks like those celts/axes recovered from the Ganeshwar region

Dangwada: The site is multi cultural and have nine sub periods, from bottom to surface, starting from Kayatha culture with BRW and ending at early medieval glazed ware culture. 99 The period-I is further divided into two sub- periods as follow:

Period-IX: glazed ware and muslim coins.

Period-VIII: Pratihar and Parmar pottery.

Period-VII: Painted red ware and Buddha figurine.

Period-VI: Khastrapa coins, devoid of BRW.

Period-V: BRW, copper coins, Ujjaini coins and Shiva temple.

Period-IV a: BRW, GW, late NBPW, copper coins.

Period-IVb: BRW and early NBPW.

Period-IVc: Malwa with pre Maurya ware.

Period-IIIId: Malwa with rectangular houses

Period-IIIe: Malwa surma and sun symbol, apsidal temple

Period-IIIIf: Malwa temple(?), bulls.

Period-IIla: Ahar ceramic without Kayatha ware.

Period-IIlb: Malwa ware dominates but Ahar ware also present

Period Ia: documented pure Kayatha.

Period Ib: Kayatha pottery along with BRW.

Both the sites show the disjunction between Kayatha and Ahar level.100 Excavations conducted at the Kayatha site revealed the interaction between OCP and late Harappan/ Harappan cultures of western India. The interaction between Aharian and Kayathian appears more strong as the presence of Aharian at Kayatha sites indicate. The presence of copper celts/axes having indentation marks like Ganeshwar region also show this interaction.

Chronological Background of OCP Culture:

The C-14 dates for OCP culture is available only from the site of Jodhpura(Rajasthan). The thermoluminouscent dates are available from the OCP sites of Lal Qila, Atranjikhera, T.Nasirpur and Jhinjhana(Uttar Pradesh). In these circumstances, only comparative account of the ceramic and other cultural remains, with other contemporary cultures in surrounding areas from where the C-14 dates are available, will help us to draw the chronology of OCP culture in different stretches of its expansion. There are two C-14 dates are available for OCP from the upper level of OCP at Jodhpura that are PRL-278, 2230+180 and PRL-275, 2530+160.101 The average of these dates is 2380+170. The material excavated from the site of Ganeshwar from phase-I of Period-II

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is similar to that excavated from last phase of period-I of the site of Jodhpura. The chronology of Ganeshwar has been pushed back to around 3000 BC on the basis of C-14 dates from Jodhpura as there is a microlithic stone tools stratum measuring about 30-50 centimetre below the OCP habitation at Ganeshwar.\textsuperscript{102} The Archaeological Research Laboratory, Oxford from the four OCP sites in western Uttar Pradesh, provides the twelve TL dates. The dates are counted on the sherds recovered from the disturbed material except the two sherds of the same level from the site of Lal Qila.\textsuperscript{103} The mean TL age suggested are 1690, 1880, 2070 and 1340 B.C. for the site of Atranjikhera, Lal Qila, Jhinjhna and Nasirpur respectively.\textsuperscript{104} On the light of these dates the chronology of OCP can be assumed broadly in bracket of c.3000 B.C. to 1340 B.C.

The problem of OCP: Since the discovery of OCP from the Bisauli in Badaun district and Rajpur-Parsu in Saharanpur district in Uttar Pradesh in 1951, it remains an enigma for its origin and authorship.\textsuperscript{105} It was also recovered from the earliest levels of Hastinapur below the PGW habitation.\textsuperscript{106} This is considered as the first culture of Ganga–Yamuna doab. The excavations at Bahadradbad, Ambkheri, Atranjikhera further complicated this problem. The occurrence of OCP from the lowest level from Noh and Jodhpura outside the doab and Kamauli and Sringverpura in the east expanded its area of occupation at a great deal. On the basis of similarity in some shapes and incised decorations some scholars linked this culture with early Harappan and Amri-Kot Diji cultural stock of northwestern India. Some scholar thinks they were displaced by the incoming Harappan.\textsuperscript{107} Some other scholars linked them with Harappan who migrated to the Ganga-Yamuna doab and designated them as degenerate Harappan as they lost their urban character.\textsuperscript{108} This view was later corroborated by Handa.\textsuperscript{109} This culture was considered a separate culture, that was native to the Ganga-Yamuna doab and was contemporary to post Harappan and Bara folk when they migrated to the Ganga-Yamuna doab.

\begin{thebibliography}{99}
\bibitem{102} 1987-88, pp.101-102.
\bibitem{104} \textit{Ibid.}, p.63.
\bibitem{105} B.B.Lal,1951, ‘Further Copper Hoards from the Gangetic Basin and a Review of the Problem’, \textit{Ancient India}, no.7, New delhi, p.233.
\end{thebibliography}
doab. S.P. Gupta propounded the indigenous origin of this culture somewhere in central doab. The OCP culture was considered as the extension of Ganeshwar-Jodhpura culture and chronologically placed in early Harappan phase around 3000 B.C. and suggested the change of the name of OCP to Gandharwar-Jodhpura culture by R.C. Agrawala et al. M.D.N. Sahi connected the OCP culture with pre early Harappan Hakra ware culture found at the lowest level at Jalilpur and chronologically placed it in the middle of fourth millennium B.C. There are many conflicting views about the origin, evolution and dissemination of OCP. So it was necessary to take intensive and extensive field work in the region of northeastern Rajasthan and southern Haryana to understand the problem of origin, evolution and dissemination OCP and its relationship with other cultures.

**Methodology:** The complete exploration of such a large area has its own inherent problem. But in the light of the problem in hand a decision was taken for the collection of data on the basis village to village exploratory field work. A great care was taken to note every site. Some site may be escaped due to negligence on my part. Some sites may be buried or destroyed due erosion and earth digging. The area combed thoroughly includes Jhunjhunu, Sikar, Jaipur, Nagaur, Kishengarh tehsil of Ajmer, Alwar and Bharatpur districts of Rajasthan, Jhajjar, Rewari, Mahendragarh district of Haryana and a sample survey in the Agra and Mathura district in Uttar Pradesh. It took six season of fieldwork during the summer and post monsoon season, during which visibility increases due to erosion by wind and water and non-availability of crops and longer day length, spreading over 2003 to 2009.

Before starting the field work information about the already explored and excavated settlement data was collected from the primary and secondary sources of the area concerned. It gives the idea about the general distribution of the sites of various archaeological cultures, the areas already explored and which areas need thorough field work. To get the general feel of the area topographs of 1:50000 scale were procured from the geographical Survey of India office at janpath, New Delhi. The maps related to drainage pattern, soil type, water quality, rainfalls pattern and minerals were collected from NATMO, DST, New Delhi. These contain almost every detail about the

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113 M.D.N. Sahi, 2007, ‘OCP Its Late Harappan Concept: Re-examined’, *Pura.*, No.37, pp.155-166.
geographical conditions, topography and ancient settlements and monuments of this area. The museums at Delhi University, Delhi, Kurukshetra University, Kurukshetra, Purana Qila and Janpath was also visited to get the first hand information about the general appearance and other material housed there related to OCP. The list of villages was collected from the Census Report of India 1991 series.

After doing all this home work field work was started in February 2003 in Khetri tehsil of Jhunjhunu district of Rajasthan and it continue upto 2009. Every village was visited so that no site remains unnoticed. The information of village old man, shepherds, farmers, cowherds were seek about the presence of any settlement as they treads their land day and night since the long periods. It will be more comfortable for them if you speak in their dialect. The ancient site is known as tibba, dadha, theh, khera, ujjar khera and dhush in this region. Here one thing should be kept in mind that antiquity for these people is based upon their own tradition and perception. They may tell one site is large enough so that is more ancient. So to avoid this fallacy I try to visit all those possible places where presence of ancient remains like pottery, stones, walls, etc. are suggested by them. For my pleasure it proves very fruit full at many of the times. Efforts were also made to get the information about the soil type, rain fall pattern, droughts and survival strategy, flood and its enormity, nature of flora and fauna, pattern of land use, crop patterns and subsistence pattern.

A systematic survey of every site was done. The higher concentration of pottery, artefacts and other remains was noted to know the possible actual area and possible limit of the site, as some times the spreads over large area is caused by different natural and anthropogenic activities. The site was paced for measurement. There may be some margin of error but it can be neglected as pacing agency was the same so this error distributed uniformly all over the data. Sometimes it was not possible to explore surface of the site systematically due to the presence of crops like bajra, Jawar and Guwar. But the crop of peanut, til and mung are helpful as the soil remains newly turned and irrigation by fountains make the shred more visible and washed. Uncultivated area is better for explorations as here the growth of grasses is sparse and visibility is high.

A sample of pottery and other cultural remains were taken from each site. The picking of site material was done from every part of the site. The efforts were consciously made to collect every specimen of artefacts which help in the identification of the various
attributes. There may be error in the collection but it is natural in exploratory types of works. To reduce the error maximally specimen were collected and even that from every parts of the site so the error become gross in nature. It is also unlikely to left one component of cultural remains entirely. After collecting they were packed in pottery bags stitched particularly for this purpose. For the small antiquities small zip lock plastic bags were used. One paper card slip were enclosed in each plastic zip lock bag and was placed inside every bag. The paper card slips were marked with name of the site, local name of the site if any, tehsil, district and date of exploration. A proforma was also filled at the site itself for every site. The column in the proforma were provided with every minute details like name, number, cultural record, chronological record, area, population estimate, nearest village and its direction and distance from the site, tehsil, district, province, map source, date, area, form, height, orientation of longest axis, geomorphology of the site, cultural deposit, resources on and around the site and their distance and direction from the site and condition of the site. This proforma also include the column for the topographical, vegetation and hydrological environment on and around of the site. The copy of this performa is given in the appendix.