Recent Archaeological Investigations of the Harappan Site of Rupnagar, Punjab

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Rupnagar or Rupar, formerly known as Ropar (Lat. 30°57'59.04" N; Long. 76°31'59.16" E) is the district headquarters of the same name in Punjab. The town was formerly known as Ropar. The ancient remains at Rupnagar are located on the left bank of River Sutlej, wherein three prominent mounds are noticeable, the highest of which rises to nearly 21 m from the surrounding plains. The site is located at a point where the River Sutlej enters into the plains from the hills.

The archaeological remains at Rupnagar are spread in an area of roughly 12 hectares and located adjacent to the Government College grounds. The ancient mound is listed as centrally protected site under Archaeological Survey of India (ASI). A brick structure, locally known as Nalagarh Kothi, is located on the elevated portion of the mound and serves as a landmark to reach the mound.

The town of Rupnagar is of considerable importance. The town is said to have been founded by a king called Rokeshwar who ruled in the 11th century and named Rupnagar after his son “Rup Sen”. The history of district Rupnagar is also marked by the war of Guru Gobind Singh against Mughals (1695). It is at Sana Nangal that the great Guru parted with the family and proceeded to Chandkaur Sahib where two elder Shahibzadas laid down their lives fighting and Guru Sahib left for the fortress of Machharia to continue the struggle.

Previous Investigations

Rupnagar, along with sites like Kotla Nihang Khan, Bara, Sanghol and Dher Majhara in the vicinity represents a good cluster of Harappan / Bara culture in this region (Fig. 1). Rupnagar was first excavated by Y.D. Sharma during 1953-54 (IAR 1953-54: 6-7) and 1954-55 (1954-55: 9), which brought to light a six-fold sequence of archaeological cultures starting from the mature Harappan culture followed by Painted Grey Ware culture, early Historic up to the modern period (Sharma 1955-56: 121-129).

The southern mound is a densely occupied town of the present day and it could be tapped only marginally by Y.D. Sharma. The small western mound conceals the Harappan cemetery, largely disturbed by later

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occupants. It is the northern mound that was excavated at several points (Fig. 2). The operations were mainly vertical and although several trenches were dug, the lowest cultural levels were reached only in parts. The excavation has been carried out at different points and named as RPR-1, RPR-2, etc. The Period I at Rupnagar was assigned to Harappan culture by Y.D. Sharma (Sharma 1956: 122) and dating it from end of third millennium to middle of second millennium BCE. Y.D. Sharma identifies at least four structural phases of Harappan culture, but also infers the existence of other phases that could not be identified due to very limited excavations (Sharma 1956: 123).

The other prominent finds include typical ceramic typology of Harappan culture, bronze implements, utensils, beads and bangles of faience, terracotta cakes, chert weights and blades. A Harappan cemetery was also excavated, which was extensively disturbed by the later occupants of Painted Grey Ware culture. The burials
have funerary objects consisting of ceramics, bangles of faience, shell and beads.

Later, Y.D. Sharma revised his interpretations from the excavation of Rupnagar and identified two sub-phases of the earliest period (Sharma 1982: 151-154). Sharma designates Period IA to the lowest two habitational strata and identifies ceramics of Fabrics A, B and D of Kalibangan I types. However, Sharma also reports that these ceramics are found in association with a few mature Harappan pottery forms and he concludes that "...IA is a phase where the Pre-Harappans held on to their pottery, but they had borrowed other articles of everyday use from the Mature Harappans" (Sharma 1982: 154). Further, Sharma identifies that the contact between the Harappans and Barans is also discernible in Period IA and in Period IB, both the ceramics are found in association with each other, with the domination of Baran pottery (Sharma 1982:154).

Kotla Nihang, a site of Harappan culture is located in the proximity of Rupnagar to its southeast. The site was discovered by M.S. Vats, who also carried out a small-scale excavation in 1929 and confirmed the extent of Harappan culture in this region. The simultaneous excavation at Kotla Nihang by Y.D. Sharma in 1955 brought to light a one-metre deposit of 'typical Mature Harappan pottery' (Sharma 1982:141). The habitational remains reported by Y.D. Sharma spread over an area of 260 m (EW) X 100 m (NS). The site has been extensively damaged and occupied by modern structures all around when visited by the present author leaving only little traces of habitational remains. The later levels at the site are represented by the introduction of Bara pottery, during which the settlement grew in size. Y.D. Sharma also excavated the type site of Bara, located nearly six km southwest of Rupnagar in 1955 and again in 1971 (Sharma 1982: 143). The site of Bara is located on the left bank of a seasonal river known as Buldu Nala and Y.D. Sharma noticed the remains spread over an area of 550 m (NS) X 300 m (EW).

The excavation at this site by Sharma brought to light four metres of habitational deposit of a single culture, delineated by lower, middle and upper levels (Sharma 1982:143). Y.D. Sharma describes the Bara pottery as distinctive from Harappan pottery and it is "...made of well levedigted, fine to medium-grained clay, it is all wheel turned, with a self-slip or applied slip, a dull brown in colour. Designs are painted in dull chocolate or black, and are incised with wooden points or brushes. Paring is present, but the more characteristic is a technique of drawing designs with a blunt point on a smooth surface. These designs acquire a sheen or burnished appearance when fired" (Sharma 1982: 143). Further, the Bara ware is also characterized by incisions on the shoulder and rustications on the base in a 'wet ware technique' with "...honey-combed ridges, brushed spirals or finger patchwork (Sharma 1982: 143)."

Y.D. Sharma, on reviewing the evidence from Rupnagar, Bara, and a few other sites like Sanghol, Chandigarh, Sarasgarh puts forth a sequence of cultural interactions in the upper Sutlej valley (Sharma 1982: 163) consisting of (1) Pre-Harappan (2200-2100 BCE), (2) Pre-Harappan plus Harappan (2100-2000 BCE), (3) Early Baran (2000-1400 BCE), (4) Harappan plus Early Baran (2000-1400 BCE), (5) Late Baran (1400-1200 BCE) and (6) Late Baran plus Painted Grey Ware (1200-1100 BCE).

Reverting back to the Rupnagar evidence as revised by Sharma, it is evident that certain traits of 'Pre-Harappan' ceramic forms were continuing along with a few 'Baran' traits when the Harappans emerged at the scene. The Harappan influence was brief and later the Baran ceramics dominate during Period IB at Rupnagar. It is with this background that the renewed excavations at Rupnagar were undertaken by the authors during 2011-12. The excavation at Rupnagar was resumed to understand the earliest levels in a better manner and to extract samples for dating, archaeobotanical investigations and other scientific analyses.
Layout of Trenches

The trenches were laid out in order to have probing on all the directions of the mound. The major objective was to probe the earliest occupation at the site, i.e. the Harappan and associated levels. However, trenches were also laid out in other parts of the site in order to collect samples of various occupation levels. Thus, the trenches were also laid out on the southern slopes, to the south of Nalagarh Kothe, on the rain gully and western-most mound which revealed the presence of Harappan cemetery during the earlier excavations (Fig. 2).

A datum point was fixed on the northeast corner of the pavement of Nalagarh Kothe with 0, 0 as its coordinates. The entire site was then gridded in 5 X 5 m squares and their position determined according to their direction and distance from the 0, 0 position. Thus, a trench located at a distance of 100 m east of 0,0 coordinate, is labelled as E100, 100 m west as W100, 100 m north as N100 and so on. Similarly a trench located at a distance of 100 m on east and 50 m north of 0,0 coordinate is labelled as N50E100. This system largely helped in the case of larger mounds where the traditional system of X, Y, Z and A division of squares had a limitation of 26 trenches and beyond that multiple alphabets had to be used.

A 25 cm balk was also left on all directions of the 5 X 5 m trench so that a 50 cm balk could be maintained between trenches for maintaining the section and recording the stratigraphy. Further, the reference peg was identified as the northwestern peg of a trench. In total, 21 trenches of 5 X 5 m were excavated as indicated below.

Out of the 21 trenches, eight trenches, viz., N45E145, N45E140, N45E135, 45E130, N45E125, N45E120, N50E145 and N50E140 were laid out on the northeastern slope of the mound in order to determine the earliest occupational levels of the site; six trenches, viz., S65W20, S65W10, S65, S70W25, S70W15 and S70W5 on the south-southwestern slope of the mound; four trenches, viz., S20W175, S20W170, N20W190 and N20W185 on the western most mound and three trenches, viz., N5E20, N5E25 and N5E30 on the rain gully (Fig. 2).
Excavation on the Northeastern Portion of the Mound

As indicated above, eight trenches of 5 X 5 m were laid out on the northeastern portion of the mound and on the slopes with an objective to reach the earliest levels easily. The habitational levels of Harappan / Bara were reached in the six trenches N45E145, N45E140, N45E135, 45E130, N45E125, N45E120, at a depth of around 50 cm itself (Plate 1). The evidence indicated that this portion of the mound is deeply eroded and due to which only 50 – 100 cm wide cultural levels could be exposed. The remaining portion of the cultural levels of this period has been eroded in antiquity and refilled due to later period activity. Thus, the southern portion of the six trenches yielded deposits of Harappan / Bara levels while the northern half revealed a mixed deposit, mostly historical. The Harappan / Bara levels are characterised by huge pit activities as evidenced from all the six trenches, which are devoid of any house plans or floor level activities. It is also interesting to note that while the upper levels of the trenches have more concentration of Bara pottery, in the lower levels Harappan pottery types dominate. The excavation also brought to light an interesting feature of habitation at this part of the mound. The habitation layers are superimposed on a 0.22 m thick mud rammed feature running in a northwest–southeast orientation which could be exposed in N45E140 (Plate 2) and N45E135 trenches. The mud feature was highly eroded when exposed and could not be traced in other trenches due to erosional activities explained above. The mud feature rests on 0.65 m thick yellowish silt and sand mixed layer, the character of which indicates an anthropogenic activity.

This yellowish silt and sand mixture layer rests on the blackish grey silt of River Sutlej. Thus, from the evidence gleaned from the six trenches, it can be surmised that the habitation at the northeastern portion of the mound at Rupnagar commenced by suitably laying a 0.20 – 0.30 m thick layer of yellowish silt and sand mixture and compacting it followed by the construction of a mud feature to have a firm ground. The series of pit activities cutting the regular habitational layers above the mud platform could be assigned to the Harappan / Bara levels. The excavation also brought to light several broken burnt bricks, however not confirming to the Harappan standardisation.

The trenches N45E145, N50E140 and N50E145 brought to light the remains of a lakhauri brick-kiln in association with a series of burnt ashy layers. The presence of brick-kiln was noticed at a depth of 0.70 m from the reference peg, which consisted of both burnt and unburnt lakhauri bricks (Plate 3). The impression of removed burnt bricks could also be noticed among the remains.

The trench N50E140 was excavated further below the remnants of brick-kiln and the natural soil was reached at a depth of 3.30 m from the reference peg. The habitational activity in this trench could be noticed in the form of a layer of river pebbles arranged horizontally. The evidence is further corroborated from excavations at other parts of the mound during the previous excavations wherein it had been reported that the river pebbles were used in the earliest phase of activity here. However, no structural activity was noticed in this trench above the layer of pebbles.

Pottery

The pottery remains from the Harappan / Bara levels consist of predominantly red coloured pottery, both sturdy and thin. Though the excavation did not yield typical and hallmark Harappan pottery, it brought to light pottery having affinity with the Harappan types and in association with Bara ware. The Harappan ware is plain and devoid of painted motifs, even though a few sherds with black paintings on red slip could be noticed. A sherd having the typical pipal leaf motif was also found. Another remarkable find among the pottery
remains is the occurrence of three broken sherds with typical Harappan signs, which might have formed part of an inscription (Plate 4). Another graffito is found on the base of a half-broken chalda with a ring base (Fig. 3).

The first sherd has part of the famous Harappan sign ‘yoke bearer’ and another sign. The lower half of the standing human figure below the shoulder and right yoke is preserved, while the left yoke and head portion is broken all along the deep incision made to create the sign on the potsherd during wet condition. The second sign has the “fish” sign preserved in a more or less complete condition. The third sherd preserves only part of a vertical stroke, which might have represented “U” motif. All these sherds indicate the classical Harappan sign system.

The prominent shapes noticed among the pottery are dish-on-stand, storage jars, goblets, beakers, jars, bowls, miniature vessels, and others (Figs. 4 and 5). The Bara pottery is characterised by the dull red slip with chocolate and black painted motifs consisting of wavy lines, geometrical motifs etc. The pottery is also characterised of red coloured ones with plain surface above the shoulder, while rusticated below it with a variety of patterns executed in ‘wet ware technique’, conforming to the patterns described in the Bara ware repertoire (Fig. 6, Plate 5). Some of the pottery forms are also characterized with shallow incised decorative patterns on the exterior consisting of wavy lines and horizontal lines (Fig. 7). Another interesting pottery from the Harappan / Bara level is a fragment of ‘cut’ ware (Plate 6).

The painted motifs are found mostly on the Bara
ware and consist of horizontal bands, wavy lines, loops filled with vertical strokes, checkered pattern and pipal leaf motif in one case (Fig. 8). The ceramics from the later levels include a mixture of coarse red ware, red polished ware and a few glazed ware. The excavation also brought to light considerable quantity of animal bones from the Harappan / Bara levels. The sediments were subjected to flotation and charred floral remains were also collected along with charcoal remains.

Antiquities

The antiquities found from the Harappan / Bara levels include the typical steatite disc beads, a steatite button (Plate 7), ivory dice (Plate 8), terracotta cakes of various shapes (Plate 9), chert blades (both Rohri chert and black chert) (Plate 10), faience bangles and beads, beads of agate, bone points (Plate 11), and terracotta bangles.

The antiquities from the historical levels yielded human figurines, glass bangles, beads of terracotta and stone, coins, and others. Another interesting feature is the occurrence of terracotta human and animal figurines assignable to 18th / 19th centuries CE based on stylistic grounds.

Excavation on the Southern Portion of the Mound

The excavation on the southern portion of the mound was carried out in six trenches of 5 m X 5 m dimensions. The trenches were laid out on the slope to the south of the Nalagarh Kothi along the N – S axis. The trenches laid out in this area are S65W20, S65W10, S65, S70W25, S70W15 and S70W5. The excavation in the trenches S65W10 and S70W5 was carried out to a considerable depth. The trench S65W10 was excavated up to a depth...
of 2.35 m below reference peg, while the trench S70W5 up to a depth of 6.65 m. While the former did not reveal any remains of structures and consists of chiefly eroded deposits, the latter brought to light habitational remains in the form of two successive mud floors having hearths in each. A rectangular hearth was found in association with a mud floor in the trench S70W5 at a depth of 1.48 m from the reference peg. The hearth is rectangular on an east-west axis, with mud bricks along the eastern arm. The mud bricks measure 34 X 22 cm. The hearth consisted of ash and charcoal. The occupation levels posterior to that of the hearth indicated a few occurrences and erosional activities as indicated by uneven topsoil-turf remains of burnt bricks. The erosional activities run in a northeast – southwest direction in this trench. Another hearth, apsidal in shape with the mouth facing the western side was encountered at a depth of 1.83 m from the reference peg and at a lower level of the above mentioned hearth. This hearth is also associated with a mud floor and remains of fine layers of ash and charcoal were found. The habitational remains can be datable to Medieval period based on the pottery remains.

The excavation was continued up to a depth of 6.65 m in S70W5 and after which the excavation could not be continued. The remains were indicative mainly of eroded deposits and not of any habitational remains. The pottery remains from this deposit are also fragmentary in nature and devoid of any clear cultural markers even though stray finds of grey and Painted Grey Ware was found from the lowest levels in S70W5. The trench S70W25 yielded the remains of a structure of burnt bricks in an east – west orientation.

The structure consists of four courses and traced to a length of 2.06 m with a width ranging from 0.38 – 0.6 m. A threshold with a width of 1 m was also found. This structure belongs to the medieval period. The finds from this area include terracotta figurines, beads, bangles of faience, hopscotch and a stone pestle.

Excavation in the Rain Gulley

A huge rain gulley of north – south orientation is noticed to the east of Nabagarh Kothi and the deepest portion is located at the northern edge of the mound. However, the rain gulley is totally covered with thick vegetation at the lower portions and the upper portions are with less vegetation. The mid portion of the rain gulley was selected for probing in order to retrieve various kinds of samples including floral and faunal remains of the historical period in order to understand the any changes in the diet practices over a period of time. The trenches excavated in this area are N5E20, N5E25 and N5E30 and in the trench N5E25, the excavation was carried out up to a depth of 6.3 m. The exposed remains belong to post-Gupta period.

A burnt brick structure constructed with re-used bricks with an orientation of northwest to southeast was excavated at a depth of 1.5 m from the reference peg in the western portion of N5E20 trench. The structure consists of seven courses with an extant height of 0.35 m. The structure was exposed with a length of 0.84 m while the width measured 0.35 m. This structure can be dated to the post-Gupta period based on the pottery remains.

Two more structures of burnt bricks were encountered from the levels assignable to Gupta period. The first structure is found at a depth of 2.50 m from the reference peg and towards the eastern portion of the trench. A burnt brick wall running in a north – south orientation along with several associated floor levels was encountered. The floor levels yielded a variety of charred grains as well as pottery. A full pot was excavated along the eastern section and in association with this structure. The wall takes a turn towards the east, the portion of which is highly disturbed. The structure consists of seven courses with an extant height of 0.36 m. The size of the bricks is 30 X 20 X 3 cm. Another brick structure of five courses was encountered at a depth of 3.31 m below
reference peg in the southwestern portion of the trench. The artifacts from this trench include terracotta objects like animal figurine, wheel, sting ball, hopscotch, beads, stone pestle, bangles of glass and shell, copper and iron objects.

**Excavation in the Western Mound**

Four trenches were laid out and excavated in the westernmost mound wherein the Harappan cemetery was encountered in the previous excavations. Two trenches were laid out at the central portion of the western mound while two more were laid on the eastern periphery with an objective to reach the lower levels.

However, the evidence for cemetery remains could not be encountered, as the excavation was limited in nature due to various constraints. The remains of Painted Grey Ware associated layers were encountered in two trenches, which were laid out on the eastern periphery of this mound. The pottery finds from this excavation include that of Painted Grey Ware and associated red ware. The prominent shapes of Painted Grey Ware from the excavations are bowls and dishes (Figs. 9-11). The painted motifs consist of vertical and horizontal strokes.
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and in a few sherds with black-banded decorations (Fig. 12).

Chronology

The chronology for the earliest levels at Rupnagar as proposed by Y.D. Sharma is to the end of second millennium BCE (Sharma 1955-56: 121-129) and later, he assigns a time bracket of c. 2200 – 1400 BCE for Pre-Harappan / Harappan / Early Bara cultures on Sutlej (Sharma 1982: 163). During the present excavation, charcoal samples were collected from various cultural levels and those from the Harappan / Bara levels were subjected to C-14 dating using AMS technique with the help of Inter University Accelerator Center, Delhi. In total, three charcoal samples from Harappan / Bara levels were dated giving a calibrated date range of c. 2300-2197 BCE (RPR 001), c. 2472-2341 BCE (RPR 002) both with p>90% and c. 2209-2131 BCE (RPR 003) with p. 85.4%. The AMS dates indicate a time bracket of c. 2400-2100 BCE for the Harappan / Bara levels at Rupnagar for the northeastern portion of the mound. The other cultural levels could not be dated using radiocarbon technique.

Conclusion

The excavation at Rupnagar was resumed with the main objective of obtaining samples for scientific investigations and analyses. The excavation was carried out at four different places of the mound. The earliest levels pertaining to Harappan / Bara cultural levels were easily reached at the slopes of the northeastern portion of the mound due to location of the trenches. The cultural levels of Painted Grey Ware were reached on the northern slopes of western mound. The other two areas, viz., on the rain gulley and southern slopes yielded historical levels. The excavation at the earliest levels enabled to confirm the co-existence of Harappan / Bara cultural stages, with the Baran elements dominating towards the end. The pottery forms obtained from the excavations from both Harappan / Bara and Painted Grey Ware levels conformed with the previous excavation. The importance of the present excavation lies in the results obtained from radiocarbon dates of three samples, which enabled to fix a time bracket to the Harappan / Bara levels at this site. Further, scientific analysis are underway for understanding the origin of copper samples from this site, which may throw further light on the trade network of this site.
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