

## CHAPTER VI

### NORTHERN BLACK POLISHED WARE CULTURE

As the name suggests this type of pottery has fine black polished which is quite lustrous and it is found mostly in northern India. The main concentration of this pottery is in Uttar Pradesh and Bihar though occasional sherds of this pottery are found even up to Taxila. This pottery was first reported by Marshal (1911-12:37-81) from Bhita. This was labeled as fine black lustrous pottery similar to the Greek Black Ware. He postulated that this pottery was introduced by the Greeks in India (Marshal 1951:432). But this theory was negated by the evidences of Bhita itself, from where it was dated to 7<sup>th</sup>-8<sup>th</sup> century B.C.E. In 1946 Wheeler and K. Deva described its distinctive fabric (Roy 1982:196). It is described as made of fine levigated clay, usually grey but sometimes reddish in section, with a brilliantly burnished slip of the quality of glaze, ranging in colour from jet black to grey and a metallic steel blue, occasionally varied with reddish brown patches. Lal and Thapar (1955:50-52) gave more precise and detailed definition as NBP having usually thin section, grey core and distinctive glossy luster.

But after decades of research and availability of more data, Roy (1982) has classified early NBPW as monochrome NBPW, which is jet black or brownish black or bluish black one divisible into five fabrics. Fabric A is hard and compact, it is called deluxe ware. The flanged and corrugated bowls are the only shapes so far reported in this fabric. Fabric B is not as hard and compact as Fabric-A and sherds are comparatively thick and the glossy surface can be scratched with a knife unlike fabric A. The straight side, carinated and sub ovaloid bowls are common along with

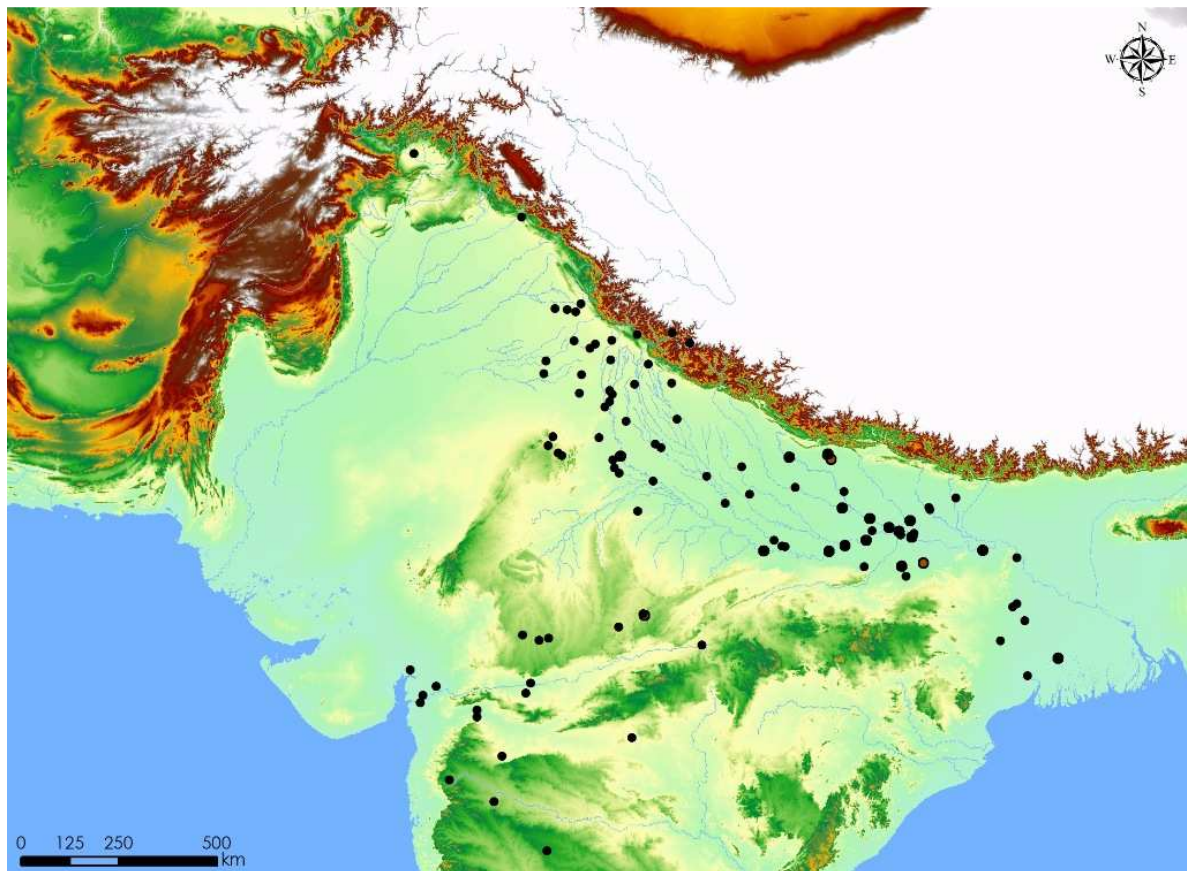
dishes. Fabric C has red core, below the shining black slip red, buff or orange yellow matt surface is visible. Fabric D sherds are usually black and red, thin in section and have lustrous finish similar to the fabric A and B. Fabric E is a coarser variety of NBPW. The bi-chrome variety NBPW exhibits the combination of two colours. The designs in colour are set off against the other. These designs appear to have been copied from PGW designs.

Associated with the NBPW are found the PGW, the plain grey ware, the black and red ware and the red ware. In the late phase of NBPW the associated ware also tend to be coarser grey ware, unslipped red ware etc.

The NBPW has been subjected to the technical investigation. Sana Ullah (1946:58) was the first scholar to analyse the ware and he concluded that the black coating contains 13% ferrous oxide and slip was applied before firing. The archaeological chemist of Archaeological Survey of India report on NBPW summarize that after turning on wheel the pots of NBPW ware appear to have been subjected to elaborate rubbing and burnishing and then coated with a fine levigated, highly ferruginous clay and again burnished to smooth the surface then fired under the reducing condition to a temperature producing an incipient fusion of the slip (Ancient No. 4:208). Even Rawson (1953:41-42) points to the firing under special reducing condition. Miss Bimson thinks that the unfired pots were dipped in a suspension of ferocious inorganic material and firing to a temperate of 800°C the kiln was sealed and the pots cooled ina reducing atmosphere (Wheeler 1959:30and 80). K.T. Hegde (1962:159-161) concludes, according to his analysis, that the lustrous coal black is slip of NBPW indicated a very high percentage of sodium and

iron in the slip. H.CBharatwaj suggests that the black colour of slip is materially an account of carbon (1969:188-192). He thought that the slip might have been obtained by the application of well lavigated emulsion of refined clay and organic liquids over the dried pots. The pots were than fried under the reducing condition resulting in uniform lustrous black surface.

A large number of sites in the area under the present study have yielded NBPW and associated ware. In the following pages brief report of the excavated sites and other explored sites has been given.



**Map. 6.1: Showing distribution of N.B.P.W. sites in south Asia**

## **Excavated sites**

### **Abhaipur**

This site is situated in the Pilibhit district of U.P. The site once extended over an area of about 2 acres. It was excavated from 2001-2002 onwards (Arora et.al 2001-2002 :122-6; Mishra and Arora, 2006:76-92 and Mishra 242-253) and the excavations here have yielded three fold cultural sequence. Period-I has the OCP, followed by the Black and red ware in period-II, PGW in period-III. The evidence of NBP though very meagre, as the surface layer totally has been removed by the villagers but is note worthy. The important discovery is a burnt brick wattle & dubgstructure, two successive floors and burnt brick wall in which brick of 32.5 x 22 x 15.5 x 8 cm were used. The antiquities found from here include glass bangles, terracotta aracanut and *ghata* shape beads etc. The glass bangles pieces mostly opaque variety and few translucent one were found.

### **Ahichchitra**

The site of Ahichchitra was subjected to the archaeologist spade right from 1940-1944 (Ghosh & Panigrahi 1946 : 37-59) to 1963-1965 ( IAR 1963-1964 :44-45 and 64-65:39:40) and later in 2009-2010 (Dimri 2009:257-262 and 2010 :228-36). Consequently a fourfold cultural sequence was encountered. Period-I belongs to the OCP culture. Period-II has yielded PGW remains. NBPW deposits were assignable to period-III which has the 1.22 thick deposits. Typical bowls and dishes of NBPW carinated *handis* and pear shaped vases in grey ware and red ware form the

pottery repottery of this period. Evidences of baked brick, multiple oven, pestle and querns suggest the construction of well defined houses. Other material remains include copper and iron objects; terracotta beads, slings balls, bangles, toy cart wheels and figurine (both human and animals) etc . A carnelian bead was also found. The last period at the site belongs to the Kushan period.

### **Allahpur**

The site of Allahpur is located in Ghaziabad district about 13km west of Muradnagar . It was excavated by K.N Dikshit & B.K Thapar ( IAR , 1970-1971 :40-1; Dikshit , 1973 :148-153) Period-IA with 1 m thick deposit have BRW in the early phase while the PGW dominated the later phase. In Period-IB PGW, Black slipped ware continue but NBPW makes its appearance. Typical NBPW pottery with associated red ware dominated in the later phase along the PGW. Use of burnt bricks; antimony rods; terracotta beads and discs; bone arrow heads and iron objects etc. is attested by the discovery of these things in the excavations. Hearth both close and open mouth have been encountered. Successive mud floors with wooden post holes, traces of burnt reed impression on mud plaster give us an idea about their structural activities. A large number of antlers horn and bone points were also found.

### **Atranjikhhera**

The site of Atranjikhhera is situated on Kali *nadi*, a tributary of Ganga , in Etah district of U.P. It was excavated by R. C . Gaur (1983 ; IAR 1962-1963; 34-36; IAR 1968-1969;37-38). Period-I is dominated by OCP habitation while BRW using

communities dominated Period-II. Period-III is represented by the PGW culture in which for the first time NBPW start showing its appearance. Period-IV is typical NBPW and has carinated *handis* and pear shaped vessels. Use of burnt bricks is preceded by the use of post holes for making huts. Pieces of burnt mud clots with bamboo and seeds impressions point to the fact that huts had the walls of this material. Atiny birds figurine of bone and copper miniature vase, iron hoe and a piece of mosaic and terracotta blocks. aprinting design are other important antiquities .

### **Bhardwaj Ashram**

The site was excavated by B.B Lal and K.N. Dikshit and the two fold cultural sequence is reported from here ( IAR 1978-79: 56). Period-I with deposit of 1.5 m have yielded NBPW and associated Black Slipped and grey ware. Lumps of clay with seed impression found here give an indication of their huts. After a gap the site was reoccupied during the Gupta period.

### **Jajmau**

This site is situated in the Kanpur district and was excavated during 1956-58 (IAR 1956-57: 22; 1957-58: 49). The site was later excavated by K.C. Ojha( IAR 1974-75:48) and R.C. Singh ( IAR1974-75: 52-53, 1976-77: 54). Period-I which is called Mauryan has yielded NBPW. Two wells of baked bricks, bone points, terracotta *dumapati* plague, an inscribed cast coins, an ivory seals etc. are important antiquities of this period. Period-II is of Kushana period while period-III belongs to medieval period.

## **Jabhera**

Jabhera is located in the Etah district on the banks of Kalinadi, a tributary of Ganga. The site was excavated M.D. N Sahi (1994). Period-I have is dominated by the OCP culture. Period-II is labelled as Black and red ware while period-IIIA is called proto PGW period-IIIB( Mature PGW). Period-IV is marked by the introduction of NBPW. In this period a moat was dug to protect the site. Burnt brick apsidal structure 4.70 m long and 1.55 m wide is an important structure of this period. This was labelled as a temple by the excavation. Use of iron in this period was wide spread as is attested by the discovery of 139 iron objects like sickle, arrow heads, daggers, knives, razors, choppers, pegs, nail rods, hook etc. Forty one copper objects were recovered which include antimony rods, nail, *parers*, ear rings, nose rings, beads, needles, bangles and utensils. Stone balls, weight, net sinkers, pestle heads are important antiquities. Beads of semi-precious stones, bangle, gamesmen and glass, terracotta violin shapes human figurines and animal figurines were also found.

## **Bhita**

Bhita is situated in the Allahabad district and the site was excavated by John Marshall in 1909-10 and 1911-12 (Calcutta, 1915: 29) NBP ware, called black lustrous sherds by Marshall were found in the lowest levels. There are two main phases of NBPW these are pre structural (Early NBP) and the other structural ( Late NBPW) .

## **Dadupur**

Dadupur is located is about 23 kms. South-west of Lucknow, across the Nagwanala. The site was excavated by Rakesh Tiwari ( 1999-2000-2001:99-116). The earliest period here is marked by Black and Red ware, Red Ware, BSW etc. Period II belongs to PGW, while period III is represented by NBPW and associated wares. Two successive floor levels in the mid levels with post holes give us an idea that they erected circular or oval huts with wall made of reed and plastered with clay. The upper level revealed burial brick structures. Bone objects, terracotta games man, female figurine and stone beads were found. Socketed and tanged arrow heads, points and hollow caps and important bone objects.

## **Hastinapur**

The famous site of Hastinapur is located in Meerut district of U.P as small streamlet Burhi Ganga a tributary of Ganga flows near the mound. Lal had excavated the site ( 1954-55) in which five occupational levels were encountered. Period I belongs to OCP, while period II was inhabited by the PGW using people. Period III belongs to NBPW phase in which use of burnt bricks, coins, weight have been found. Iron was quite common human and animal figurines (Lal 1954-55 Pl. XIII), beads, glass bangles, rings; ring of copper, chalcedony and horn other important finds along with Silver Punch marked coins and even copper Punch marked coins. Period IV belongs to the historical period.



## **Hulas**

The site, situated in Saharanpur district of U.P, was excavated by K.N. Dikshit and was about 330 x 175m in size. ( IAR1978-79: 60-61; 1979-80:82; 1980-81: 75-76, 1981-82: 73-74). The earliest period here belonged to the Harappan periods. Period II is dominated by PGW and associated wares. Period III has 70 cm thick deposit of NBPW and associated ware. The NBP is represented by only a handful of sherds. Terracotta beads, wheels, human and figurines; stone balls; bone points; beads of glass and carnelian etc. are the antiquities found during the excavation. Period IV, the last period at the site is represented by Sunga-Kushan period.

## **Hulas Khera**

The site is located in the Lucknow district of U.P. This 80 acres mound excavated by Rakesh Tiwari and his team during 1995-96 and 1980-81 (Tiwari. al., 1995-96: 95-133; IAR 1980-81:71). The earliest level here is pre NBPW and has PGW culture. Period IB also had a few PGW sherds, while period II is characterized by NBP ware and its associated Black Slipped Ware and Red Ware. Bowls, dishes and miniature pots with slip and occasional incised designing also met with bone tanged, styli, arrow heads awls, stylis, bangles; ivory objects; terracotta discs, balls and *ghata* shaped and upper artifacts were found in the layers of this period.

## **Kannauj**

The important site of Kannauj was excavated by K.K. Sinha ( IAR 1955-56: 19-20). Here the occupation started around 1000 B.C and this period is marked by BSW and PGW. Period II has yielded NBPW and associated wares. Burnt brick were used for construction purposes.

## **Khalaua**

The site is situated at a distance of 16 km from Agra. Y.D. Sharma was the first excavators of this site ( IAR 1965-66). This single culture site has yielded PGW along with few sherds of NBP in the upper layers along with B & R, Black Slipped ware etc.

## **Batesvara**

This site is located in Agra district of U.P. and was excavated by J.S. Nigam in 1974 (IAR 1975-76:42-43). Period-I is characterized by the PGW, B&R, BSW and Red Slipped Ware. In period-II NBPW and thick Grey Ware are found. Terracotta ring well, oven, skin rubbers, bone points are common antiquities found in this period. Period-III and IV belongs to early centuries of christen era and Sultanate period respectively.

## **Mathura**

A small scale excavation at the site was conducted by M. Venkataramayya and Ballabh Sara in 1954-55 (IAR 1954-55:15-16). Later on B.K. Thaper and his team conducted extensive excavations from 1973-44- to 1976 (IAR 1975-76:53-55) . Period-I was divided into IA and IB and is marked by PGW. Period-II had shreds of NBPW ware and associated wares. A mud brick platform was constructed in this period. Mud floors, ring wells, soak jars gave an indication of structural activities. Silver punch marked coins, a copper Punch Marked coin, bone points, iron spear head, beads of semi-precious stones, terracotta beads, animal figurine and human figurine in grey ware are important finds of this period. Period-III marks the late phase of NBPW in which ring wells and large number of structures of burnt bricks were noticed. Period IV belongs to Sak-Kushana times and period-V still latter.

## **Pariar**

The site lies in the Unnao district of U.P. and was excavated by B.B. Lal and K.N. Dikshit in 1978-79. Period-I has yielded OCP, succeeded by PGW in next period. Period-III belongs to NBPW which over laps with PGW. Typical NBPW and associated ware were found. Brick kilns and terracotta ring well are the important findsof late phase of NBPW. The latest period here is of Sunga-Kushana times (IAR 1978-79:61-62).

## **Sravasti**

In 1958-59, K.K. Sinha excavated this site and the site has yielded NBPW and associated Black Slip Ware, plain Grey Ware and PGW sherds also. A series of post holes presence of pits filled with lumps of burial logs give us an idea about the building activities. Important is the discovery of 'eyed beads' of stratified glass and agate & lapis lazuli, cylindrical beads, terracotta discs with swastika symbol and sun symbol; bone points, glass bangles etc. copper bangles, ear rings pins and borer attest their metallurgic advancement. Iron was less in use. Period-II has red ware and coarse grey ware while period-III can be dated to c. 4<sup>th</sup>-5<sup>th</sup> century A.D.

### **Musanagar**

This site is situated in Kanpur district of U.P. This site was excavated by Rakesh Tiwari (IAR 1994-95:74-76; IAR 1995-96:103-104; Tewari *et al* 1996: 67-73). Period-I is represented by BSW. Black and Red Ware both hand and wheel made is also found in this period. Period-II deposit belongs to the PGW times. Period-IIIA is characterized by the occurrence of the NBPW ware in which a few sherds of PGW were also found. Perforated legged pottery, straight sides bowls, globular bowls and convex sided discs are found. Post holes give an indication of huts. A bone arrowhead and terracotta sling balls were also found. In period IIIB NBPW continues with Red ware, B & R ware sherds of NBPW with scroll design are important and also kiln baked bricks. Roof tiles give us an idea that this period is developed from proceeding phase. Terracotta sling balls, disc, human and animal figurines, bone points are the other antiquities of this period. Period IV and V has dominating pottery in the form of red ware.

## Sringverapura

The site of Sringverapura was excavated by B.B. Lal in 1977-79 (IAR 9177-78:54-56; Lal and Dikshit 1981:1-7). Period-I have represented the Late Phase of OCP culture. Period-II has Black Slipped Ware; Black and Red Ware, burnished grey and Red Ware. In period-IIIA NBPW was introduced. Sherds of PGW along with Black Slipped Ware of PGW type are also found. In period-IIIB miniature bowls and carinated *handis* made their presence along with burnt bricks structure. Period-IIIC is the late phase of NBPW and has terracotta figurine of Mauryan variety, terracotta balls; bone points, copper and iron objects are other antiquities. Punch Marked coins of silver and copper were also found. Next period is dated to 250 B.C.E.-200 A.D.. Period-V and VI belongs to medieval times. While period-VII has modern period remains.

Apart from the excavated sites, a large number of explored sites have also yielded good data about the distribution pattern and material aspects of this culture (Table 6.1). The Painted Grey Ware culture was a prelude to the urbanization in the Ganga plains. The Small village settlements gradually gave way to the towns and cities. Around the 8<sup>th</sup> century BCE the proto state structure transformed into the cities state, *Janapada* and *Mahajanapadas*. During the times Buddha, the period roughly considered with the emergence of the Northern Black Polished Ware. There were four gate powers dominating the north India. Before these were 16 *Mahajanapadas* and a host of small and big republican state. All these states have

couple of cities in there ambit. These cities were mostly situated on the bank of rivers and along the *Uttirapath*, referred to in the Buddhist literature.

The use of iron technology, which started during the proceeding period, had it progressive development in this period and it played the role of catalyst in the development of urbanization. Kosambi (1958:191:196) was the first person to suggest the connection between the iron technology and the clearance of forest for ploughing in the Ganga valley leading to the surplus production, increase trading and use of metallic currency. The fact that all the *Mahajanapada* had their own distinct money even before sixth century BCE, suggests its emergence at least a couple of centuries before the birth of Buddha. The elements gave impetus to urbanization, emergence of guilds and finally to the state formation. A host of scholars later postulated the role of iron in the systemization and formalization of urban elements (Saro 2014:161-175) in place of primitive and egalitarian society.

**Table 6.1 List of Some N.B.P.W. sites**

S.No	Site name	Lat	Long	Cul. Sequence	Reference
1	Ahichchhaatra	28 22 00	79 07 00	OCP, PGW, <b>NBPW</b> , RW	IAR 1963-64:43-44
2	AhirwaRajarpur	27 07 20	79 28 30	PGW, <b>NBPW</b> , GW, ORSW, BSW, RW	Tewari 2004:219-224
3	Ainti	26 22 00	80 10 00	PGW, <b>NBPW</b> , POST <b>NBPW</b>	Lal 1984:61-80
4	Ankin	26 56 00	80 02 00	PGW, <b>NBPW</b> , POST <b>NBPW</b>	MakhanLal 1984:61-80
5	Antapur	26 24 00	79 43 00	PGW, <b>NBPW</b> , POST <b>NBPW</b>	MakhanLal 1984:61-80
6	Asai	00 00 00	00 00 00	PGW, <b>NBPW</b> , RW	IAR 1987-88:108-109
7	Atranjikhhera	27 12 00	78 44 00	OCP, BRW, PGW, <b>NBPW</b> , RW	IAR 1962-63:34-36
8	Atwa	00 00 00	00 00 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
9	Bachna	26 49 00	80 00 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
10	Badla	00 00 00	00 00 00	PGW and other associated ware	IAR 1979-80:78
11	Baghpat	00 00 00	00 00 00	PGW, NBPW	Ancient India 10-11:138
12	Batesvara	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1975-76:42-43
13	Bhoganipur	00 00 00	00 00 00	PGW, BRW, <b>NBPW</b>	IAR 1992-93:93
14	Bhogpur	00 00 00	00 00 00	PGW	Tripathi 1976
15	Bhura	00 00 00	00 00 00	PGW	IAR 1968-69:70
16	Bidhuna	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1978-79:22
17	Biharipur	28 44 30	79 52 30	PGW, GW, ORSW, RW	Tewari 2004:229-232
18	Bilai	28 38 20	79 42 50	PGW, GW, BSW, RW, BW, <b>NBPW</b>	Tewari 2004:229-232
19	Bilaspur	28 46 40	79 44 10	PGW, GW, <b>NBPW</b> BSW, BRW, ORSW	Tewari 2004:229-232

20	Binawar	00 00 00	00 00 00	PGW, BSW, GW, <b>NBPW</b>	IAR 1978-79:21
21	Birupur	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1962-63:34
22	Bishungarh	27 06 25	79 25 30	PGW, <b>NBPW</b> , GW, ORSW, BSW, RW	Tewari 2004:219-224
23	Bujhera-Hujhera	27 55 50	79 58 00	PGW, GW, <b>NBPW</b> , BSW, ORSW, RW	Tewari 2004:5-21
24	Chakarnagar	00 00 00	00 00 00	PGW, <b>NBPW</b> , RW	IAR 1987-88:108-109
25	Chandidiha	00 00 00	00 00 00	Corded Ware,	Tewari & Srivastava 1994:13-39
				BRW, PGW, <b>NBPW</b> , BSW, RW	
26	Chandpura	27 02 50	79 38 20	PGW, <b>NBPW</b> , GW, BSW, RW	D.P. Tewari 2004:219-224
27	Club GharTila	00 00 00	00 00 00	PGW, <b>NBPW</b> , EH	IAR 1978-79:22
28	Dalelganj	27 29 40	79 26 40	PGW, <b>NBPW</b> , BSW, GW, RW	Tewari 2004:211
29	Dalippur	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1971-72:80
30	Debipur	26 20 00	80 00 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
31	Deoha	26 52 00	80 00 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
32	Firozpur(Amari Ghat)	27 54 45	80 17 15	PGW, GW, BSW, RW, ORSW	Tewari 2004:224-229
33	Gadai-Ghat	28 11 00	80 09 50	PGW, GW, BSW, ORSW, RW	Tewari 2004:5-21
34	Galatha	26 13 00	80 17 00	BRW, PGW, <b>NBPW</b>	MakhanLal 1984:61-80
35	Gandharpur	28 15 00	80 01 40	PGW, <b>NBPW</b> , GW, BSW, RW	Teawri 2004:5-21
36	Ghatampur	00 00 00	00 00 00	PGW, BRW, <b>NBPW</b> , Sunga-Kushan RW	IAR 1992-93:93
37	Gwaidam	00 00 00	00 00 00	PGW, <b>NBPW</b> , Early Historical	IAR 1978-79:22
38	Hulaskhera	26 41 00	81 01 00	PGW, BSW,	IAR 1980-



				<b>NBPW, RW</b>	81:71
39	Indayan	26 30 00	79 57 00	BRW, PGW, <b>NBPW</b>	MakhanLal 1984:61-80
40	Jahangirabad	26 12 00	80 11 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
41	Jajmau	00 00 00	00 00 00	BRW, PGW, <b>NBPW</b>	IAR 1961- 62:57
42	Jorasi	00 00 00	00 00 00	PGW, <b>NBPW</b> , Sunga-Kushan, EM	IAR 1984- 85:92
43	Junsuty	27 27 53	77 34 23	PGW, BRW, <b>NBPW</b>	Chakrbarti et al.,2004:57-69
44	Kamasia	26 36 00	79 50 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
45	Kampil	27 36 00	79 16 00	PGW	IAR 1975- 76:51
46	Kannauj	27 03 22	79 57 06	PGW, <b>NBPW</b> , GW, RW	IAR 1955- 56:19
47	Karankhera	26 23 00	80 29 00	PGW, <b>NBPW</b>	<i>Man &amp; Environment</i> VIII-1984:61- 80
48	Karchalipur	26 11 00	80 19 00	PGW, <b>NBPW</b>	<i>Man &amp; Environment</i> VIII-1984:61- 80
49	Kaseri	28 21 00	77 15 00	OCP, PGW, <b>NBPW</b>	IAR 1963- 64:92
50	Kashipur-A	26 34 00	79 56 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
51	Katka	26 37 00	79 45 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
52	Khalana	00 00 00	00 00 00	PGW	Tripathi 1976
53	Kheera	00 00 00	00 00 00	PGW, <b>NBPW</b> , GW, RW	IAR 1975- 76:78
54	Nighohi	00 00 00	00 00 00	PGW, <b>NBPW</b> , GW	Pandey 2001:190-207
55	Avala	28 15 00	79 10 00	PGW, BRW, <b>NBPW</b> , RW	Sharma 2001:177-189
56	Kherakursi	26 42 00	79 58 00	PGW, <b>NBPW</b>	<i>Main &amp; Environment</i> VIII 1984:61- 80
57	Kheora	26 30 00	80 17 00	BRW, PGW, <b>NBPW</b>	<i>Man &amp; Environment</i> VIII-1984:61-

					80
58	LallanMiyankaRoja	00 00 00	00 00 00	PGW, <b>NBPW</b> , Early Historical	IAR 1978- 79:22
59	Madanpur	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1969- 70:62
60	Mamen	00 00 00	00 00 00	PGW, <b>NBPW</b> , BSW, RW	IAR 1987- 88:108-109
61	Mathura	00 00 00	00 00 00	PGW, <b>NBPW</b> , Kushan, Gupta	IAR 1954- 55:15-16
62	Mawar	00 00 00	00 00 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
63	Milanpur	29 19 00	79 55 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
64	Mirgapur	00 00 00	00 00 00	PGW	Tripathi 1976
65	NaglaDayal	00 00 00	00 00 00	PGW, <b>NBPW</b> , BSW, Kushan	IAR 1980- 81:71
66	NonhaNaringh	26 38 00	80 11 00	BRW, PGW, <b>NBPW</b>	MakhanLal 1984:61-80
67	Nurnagar	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1963- 64:53
68	Panchgawan	26 26 00	80 06 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
69	Praonkh-Sahan	00 00 00	00 00 00	PGW, <b>NBPW</b> , BSW, Sunga- Kushan	IAR 1977- 78:58
70	Qila Mound	00 00 00	00 00 00	PGW, <b>NBPW</b> , Early Historical	IAR 1978- 79:22
71	Radhan	26 45 00	80 08 00	BRW, PGW, <b>NBPW</b>	IAR 1986- 87:131
72	Rafiabad	00 00 00	00 00 00	OCP, Plain BRW, PGW, Glazed ware, EH	IAR 1978- 79:21-22
73	RahimpurBisdhan	26 49 00	79 54 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
74	Ramgarh	00 00 00	00 00 00	PGW, <b>NBPW</b> , BW, RW	IAR 1977- 78:59
75	RasulpurBhuranda	26 12 00	80 27 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
76	Sadjwara	27 01 00	78 02 00	OCP, PGW, <b>NBPW</b>	IAR 1991- 92:97-98
77	Sahan	00 00 00	00 00 00	PGW, <b>NBPW</b> , BSW, Sunga- Kushan	IAR 1977- 78:58
78	SajetiBadsahpur	26 54 00 80 04 00	80 04 00	PGW, <b>NBPW</b>	<i>Man &amp; Environment</i>

					VIII-1984:61-80
79	Sambhalgarh	26 23 00	80 08 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
80	Sanihapur	26 26 00 79 47 00		PGW, <b>NBPW</b>	MakhanLal 1984:61-80
81	Sankara	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1960- 61:32-33
82	Sankisa	27 24 35	79 41 50	PGW, <b>NBPW</b> , RW, BSW, Medieval	Tewari 2004:211
83	SantokhpurGhat	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1988- 89:84
84	Sapai	26 21 00	80 12 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
85	Sarai Bharthara	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1977- 78:58
86	Sarawa	00 00 00	00 00 00	PGW	IAR 1962-63
87	Sarayaganj	26 43 00	80 09 00	PGW, <b>NBPW</b>	MakhanLal 1984:61-80
88	Sauripur	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1958- 59:74
89	Shikhana Mound	00 00 00	00 00 00	PGW, <b>NBPW</b> , Early Historical	IAR 1978- 79:22
90	SiddapurSheoli	26 36 00	80 07 00	PGW, <b>NBPW</b> , POST <b>NBPW</b>	MakhanLal 1984:61-80
91	Siswania	00 00 00	00 00 00	PGW, <b>NBPW</b> ,Hist, Late Medieval	IAR 1995- 96:83-86
92	Siyapur	27 58 32	79 49 35	PGW, <b>NBPW</b> ,Hist, Late Medieval	Tewari 2004:219-224
93	Tora-A	26 27 00 80 07 00		PGW, <b>NBPW</b>	<i>Man &amp; Environment</i> VIII-1984:61- 80
94	Vaman	00 00 00	00 00 00	PGW, <b>NBPW</b>	IAR 1965- 66:41

But there are host of other scholars who see no linkage between use of iron and iron technology bringing about discernible change in the material life of people.

Strongest votary of this group Chakrabarti (1972-73:329-338) does not see any obvious relationship between iron and the Ganga urbanization. George Erdosy feels that by the time the iron was introduced on the large scale the state formation was already in advance stage. MakkanLal (1986:85-90) feels that no appreciable change can be seen either in the technology or the extensive use of tools from the P.G.W. to the N.B.P.W. period. He even calls the idea of the use of iron tools and clearance of forest for agriculture settlements a myth. Whatever may be reason but the fact is that the number of sites grew in the Ganga valley and even the size. In the area under the present study hundred of sites yielded N.B.P.W. and coarse grey ware and its associated red ware. The present researcher also added three in the list which were not known earlier. A large number of sites were subjected to the scientific excavations and have yielded data for the study of various aspects of this culture. But since most of these sites are multi-culture hence limited area was excavated and no large scale horizontal excavations have been carried out, thus limiting our vision about the holistic aspect of the culture.

### **Settlement Pattern**

From the distribution of the NBPW sites and the relative size of the settlements, we can have fair idea about the man-land relationship. The early NBPW sites were located in the low lying area whereas later sites have been found on the river banks and elevated area. MakkanLal have suggested that sites on the bank of Ganga are much bigger in size and more closely spaced than on the tributaries (Roy 1983:128). The excavations gave very meagre evidence about the size of NBPW mound and internal settlement pattern. For example during the early phase of NBPW

at Rajghat and Prahladpur habitations confirmed only on certain parts of the mound suggesting that in the beginning the size of the settlement was moderate and spordtic. On the basis of Atranjikhhera excavations where the PGW settlement was confirmed to the east side of the mound while the remaining part of the mound belonged to NBPW period which lies immediately over the natural soil. According to the Ghosh though much of the occupation has been washed away by the floodsand hence, exact area of NBPW phase has yet not been determined. He hazarded a guess that it would be approximately 850 x 550 m (Ghosh 1982:60). For the later phase of NBPW, we have no idea of the extent of occupation. However since a considerable portion of north India was on the threshold of urbanization one should expect and extensive physical size of settlement with richness of material culture (Roy 1983:129).

### **Building Remains**

The excavations conducted at a large number of NBPW sites have yielded the data about the building remains of this culture. The excavations at Abhaipur (Arora *et al* 2001:121-126) gave us an idea about the use of uneven surface by leveling it to make it habitable. The surface was rammed hard and plastered with yellow silt. The village settlement at NBPW site Atranjikhhera had huts as is evident from burnt bricks clods with bamboo and reed impression (Gaur 1983; IAR 1962-63:3). Similarly at Dadupur(period-II) two successive floor levels with post holes were noticed (Tiwari 2001:99-116). These huts have thatched roofs but at same site terracotta roof tiles were also used. Later on the use of mud bricks alsostarted as is evident from Atranjikhhera excavations. Even the village settlement in this period were built with huts raised on wooden poles and having reed walls plastered with mud (IAR 1970-

71:49). The huts have thatched roof supported on the wooden poles and having reed walls plastered with mud as at a number of sites mud clods with reed and bamboo impression have been noticed.

The use of burnt brick was found in the advanced phase of the NBPW. Burnt bricks of various sizes and burnt bricks bats were found at a number of sites. At Abhipur bricks of 32.5 x 22, 15.5 x 8 cm have been reported (Mishra and Arora 2006:76-92). At Allahpur the bricks of 33 x 16 x 5.5 and 39 x 19.5 x 5 cm with finger design were found in Late NBPW assemblage (IAR 1970-71:41). Allahpur have also yielded baked bricks (IAR 1970-71:40; Dikshit 1973:148-153). Alamgirpur (Period-III Late NBPW) had brick size 31.8 x 31.8 x 9.5 and 47.7 x 31.8 x 9.5 cm with three finger marks (IAR 1958-59:54). Atranjikhhera (Period-IV) also had baked bricks but the excavator have not revealed their size (Gaur 1983). Mathura excavations had the testimony of the use of big burnt bricks in the facing platform during period-II, Late NBPW phase. The size of bricks was 64 x 42 x 7.9 cm (IAR 1975-76:55). Hastinapur period-III had burnt brick remains (Lal 1954). Hulaskhera had bricks of size 43 x 24 x 7 cm size in the early and late phase of NBPW (IAR 1978-79:74). Similar size bricks were found at Jajmau in the late phase of NBPW (IAR 1975-76:52). Batesva, district Agra had bricks of size 50 x 25 x 8 cm in period-II late phase of NBPW (IAR 1975-76:43).

### **Building Remains**

The evidence of the bricks, walls and other structures have been reported from various excavated sites. But since these excavations were not of horizontal nature, hence, very merge data about the nature of various domestic ritualistic and administrative structures is available. But since available literature evidence support the archaeological evidences, hence, we have fairly good idea about the nature of the structure. The evidence of iron tools for various purposes other than agriculture is attested by the Greek writer Megasthenes (Sarao 2014:163). In the *Astadhyayi* (IV.70) of Panini (c. 5<sup>th</sup> C. BCE) have words denoting building activities with iron implements. In the *Jataka* stories we come across a reference to *Anathapindika's* house which was like “a pool dug where few roads meet” (*Jataka* I, 227). Buddha stayed in *Jetavana*, during rainy seasons, which was very expensive place (Sarao 2014:167). The early Paliliterature refer to the structure and settlements of a wide variety ranging from hamlet to big houses, *Santhagara* (council hall), *Kotthagara* (store house), *Bhusagara* (barn) etc. (Sarao 2014:168).

But archaeological evidences have not yet succeeded in tracing the transformation of rural society into urban society but there are references to the walled urban settlements which give us idea about this. The reference to the walled urban settlements in the literature is attested by the discovery of a brick platform at Mathura (IAR 1975-76:55), structure with 40 courses made with English bond method at Sanchkot where brick of 51.4 x 28.31 x 7.5 and 54 x 31 x 8 cm were in use (Tiwari 2005:186-190). This is a good example of big structures. Similarly 1.55 wide burnt brick wall at Jakhera made of bricks but not of uniform size also points to the big structure. The Sravasti (P.II) evidences of fortification of burnt bricks points

to the walled urban settlement. Similarly big sizes of bricks and width of structures is also an index to the major building activities.

### **Domestic Houses**

The post holes and clods with reed and bamboo impressions from Atranjikhhera, Alamgirpur, Hastinapur, Allahapur etc. gives an idea about the huts of various sizes having thatched or tiled roofs. Mud walls with use of rice husk to reinterred it with plaster were observed at Hastinapur. Later on brunt bricks were used for making domestic hoses. Floors were made of rammed earth sometimes mixed with baked brick clods. At Atranjikhhera (IAR 1963-64:49) five floor levels were identified. At Allahpur mud floors were noticed. The Hastinapur evidences of three mud walls (no. 2,3 and 4) suggest the existence of two rooms, one of which was atleast 4.56 x 4.56 m size.

The houses had hearth and oven of various types. The clay hearth of single mouthed to close and open mouthed hearth are quite common (IAR 1970-71). From Allahapur multiple ovens on mud floor and oven from Ahichchhatra, series of hearth at PuranaQuila and a peculiar type of hearth with one mouth and three opening from Atranjikhhera are other examples of various types of domestic hearths. Ahichhatra also yielded the evidences of multiple ovens (period-III).

In the late phase of NBPW ring wells came into use. These terracotta ring well (IAR 1978-79:Pl. XXXVII-B) were used as a form to dispose off domestic waste water and sometimes even used as pit latrines. The evidences from Hastinapur, where a ring well (no.4) was lined by a superstructure of five courses wedge shaped



bricks another ring well (no. 2) excavated upto the depth of 7 m, exposing 47 ring without reaching the bottom, points to the fact that these were cut into the natural soil. These ring wells were either connected to a drain and this or were constructed near the drain suggest its use as as soak pit. Ring wells with wedge shaped bricks may also have been used as drain wells.

In this phase drains of various types were constructed. Individual houses had paved baths from where dirty water could discharge into main drain or soak pit. Drains with burnt bricks from Hastinapur, Mathura (IAR 1954-55, Pl-XXVIII) are the example of this type. At Hastinapur drain was traced to length of 7 m and was sunk about a metre deep from ground level. At PuranaQuila (IAR 1970-71:8) also drains with baked brick lining were found.

### **Furnaces, Kilns and Ovens**

The evidences of Furnaces, kilns and ovens points to various type of industrial activities. In the late phase of PGW at Atranjikhhera (IAR 1963-64:49), pottery kilns and clay hearths found at several levels, black smith furnaces with circular fire pit filled with ash, iron tools and clay cones were reported. Similarly at late NBPW phase at Mathura a black smith furnace was reported (Ray:139). Brick kiln from Pariar (period-III) points to the use of burnt bricks at large scale (IAR 1978-79: XXXVII-B).

## **Material Culture**

A large number of items of material culture were excavated and explored from a number of sites. These include metal objects, terracotta objects and objects of semi-precious stones. These give an insight into the life and culture of the people of by gone era.

### **Copper objects**

In the early phase of the NBP ware important antiquities are antimony rods, nail parer from Hastinapur and Sravasti etc. copper pins, needles and bangles are common at Atranjikhhera and Jabhera. Sravasti has yielded bell pendants and ear rings. Three copper vasselswere also found at Sringaverapura. While in the late NBP phase antimony rods have been found at Hastinapur. Copper reel or spool bangles (Hastinapur), beads pendants, ring blades and tools from Kausambiwere found.

### **Iron objects**

In the early phase of NBP a number of sites have yielded a variety of objects. Important among these are the arrowheads, nails and an elephant godfromSravasti. 82 iron objects were found from Atranjikhhera. Jabhera has yielded arrow heads, door sockets, spear heads, rods, nail shaft, chain, knife, chisels etc.In the late NBP phase iron becme more profuse.Sringaverapura-III B and C; Jagnau I, Atranjikhhera, Mathura, Sondh, Hastinapur, Allahapur, Sravasti, Ahichchtra have yielded a variety of objects like arrow heads, spear head, sickle shape, plough shere , hoe, clumps,

chisel rings, chipper, axes, knives etc. Important finds from Hastinapur include barbed and socketed arrow heads, a chisel, chisel, blades, and a bracelet like objects. Knives blades, leaf-shaped spear head, nails, arrow heads, chisels, a hook and socket of a spade etc. are the important objects found from Sravasti. On the basis of the artefact types we can assume that these include weapons of war and defense some of which may be used for hunting purposes. Here we may refer to the sling balls of stone and terracotta which can also be used as missiles. House hold objects along with the objects used in the structures also a class in itself which give us an idea about their building activities. Agricultural tools like spade, plough shere, hoe were also found in plenty. A few copper pots and pans found at sites were used in the domestic chorus. Bracelet , beads, bangles, rings were used as ornaments. Thus, we can conclude that the NBP ware using people were well used with iron metallurgy and iron was used for a variety of purposes.

### **Bone objects**

Bone points, arrow heads, awls, pins, comb-teeth etc. have been reported from a number of sites. Arrow heads have been reported from Atranjikhhera, Alamgirpur, Priar, Hulas, Jabhera, Kausambhi etc. Hastinapur has yielded a number of bone points which Roy thinks are bone styli or building needles. Some points, sometime called awls pins etc., are also found at Alamgirpur, Hastinapur, Atranjikhhera, Jabhera, Mathura, Khalauna, Prahladpur etc. Bone points were also used as arrow heads. Early NBP has arrow heads with shorts points, single tagged

often socket etc. A bone points inserted with an iron shaft is an input evidence from Atranjikhhera. At Kausambhi same arrow heads were laced with blood or poison. Bone points inserted with an iron rod are also reported from Allahpur.

### **Stone objects**

A number of objects of stone are reported from various sites. These may be sling balls, weight, mullers, quarrels etc. Stone pestles have been reported from Atranjikhhera. A rectangular stone object with smoothened surface have been reported from Allahapur

### **Beads**

A large number of beads were found in the NBPW levels from various sites. The terracotta *ghata* shaped beads continued in the early phase of NBPW and also in the late period. Such beads are reported from Abhaipur, Hulaskhera etc. Arecanut shaped beads are more common in the late NBPW phase. Other interesting variety of beads of this phase include cylinderbeads showing and impressed design and long convex hexagonal beads decorated with appliqué.

### **Agate**

Beads of agate similar to PGW culture continue in the early phase of NBPW and also in the late phase at Hastinapur, Sravasti, Kausambi, Ahichatra etc. Spherical 'eye' beads occur at Ahichchhatra and Srivasti. Etched beads are found in the late phase of NBPW. The earliest example reported from Hastinapur, Sravasti, Ahichchhatra, Kausambi etc. are the other sites from where such beads are reported.

### **Carnelian**

The carnelian beads of PGW continued in the NBPW phase also and show variety in form. Long convex pentagonal from Hastinapur, bi-cone hexagonal from Sravasti, short barral type from Ahichchhatra, animal pendent from Kausambi are important. Hulas, Saunphari, Mathura have yielded such beads. Even etched carnelian beads have also been reported from Kausambi, Ahichchhatra and Mathura.

### **Bone**

Bone beads both spherical and biconical type, have been reported from Hastinapur, Sravasti, Kausambi etc.

### **Glass**

Glass beads are quite common in the NBPW phase though the glass is generally not so fine in the early phase at Hastinapur, Rajghat, Jakhera, Kausambi,

Ahichchhatra, Mathura etc. Etched glass beads reported from Hastinapur is quite interesting.

### **Jasper**

Beads of Jasper are quite rare in NBPW phase, Kausambi has yielded Jasper beads from NBPW phase which are of spherical red colour and come from stratigraphy dated to 300 BCE

### **Copper**

Beads of copper are quite common in NBPW phase and these have been reported from Hastinapur, Kausambi, Sravasti etc. Spherical or coiled beads of copper are reported from Ahichchhatra.

### **Shell**

Shell beads are reported from Mathura, Sravasti, which are generally round in shape but a disc bead having four circler design from Sravasti is interesting.

### **Chalcedony**

Cylindrical and spherical beads of chalcedony are reported from Ahichchhatra, Kausambi and Rajghat.

### **Crystal**

Beads of this material occur in the Late phase of NBPW at Hastinapur and Srivasti.

### **Amethyst**

These beads are reported from Ahichchatra, Hastinapur and Sravasti. Hastinapur specimen are short truncated convex hexagonal while Ahichchhatra specimens are long barrel elliptical one.

Besides these quartz beads have been found at Ahichchhatra, onyx bead from Hastinapur and Faience beads from Agiabir.

### **Bangles**

A large number and variety of bangles have been reported from the NBPW levels which include terracotta, glass, shell, bone etc. Glass bangles are mostly monochromatic (light green) or light brown, sea blue and black. These have been found at Allahpur, Atranjikhara, Sravasti, Hastinapur etc. A thick bracelet of black glass is an important find from Sravasti.

### **Rings**

Rings of copper made of flattened copper wire are reported from Sravasti, while Hastinapur yielded rings of chalcedony, horn and copper.

### **Terracotta Discs**

Terracotta discs are quite common in the NBPW phase and have varied sizes and have incised designs on them. Hastinapur, Mathura, Atranjikhhera, Jakhera, Hulas, Priar, Allahpuretc have yielded terracotta having various types of designs like 'V' shaped pattern, nail pattern, loops with design of fore wheel in clock wise direction etc. Some discs have the depiction of sun symbol and a few have stylized figurine of a deer. At Prahladpur swastika and floral design are common. Apart from the terracotta discs which were manufactured with care, have standardized weight, diameter, thickness and designs. Pottery discs were also used in all the phase of NBPW. Grey Ware, NBPW and red ware sherds were used to make such specimen.

### **Terracotta Figurines**

Plastic art is one of the most important aspects of human beings. It gives an idea about the aspiration of the people and it has diagnostic trait of a particular culture. The terracotta art of early NBPW phase and Late phase (Mauryan) are quite distinct. Early NBPW phase has few specimen of mother goddess figure from Jakhera, Rajghat, which are red in colour and the figurine characters by broad lips and thigh, an applied girdle decorated with a row of punched circlet designs. Human terracotta have also been reported from Khalana, Kausambhi, Prahladpur etc. From here grey coloured specimen and dull red ones have been reported. Use of appliqué design is quite common. Different parts of body are made by joining them. Eyes, breasts and navel etc are shown by circlets.

In the late phase, mother goddess figurine have bird or animal faced with prominent breast, bold lips, thin waist and beautiful adorned by appliqué and punched



design. This type have been reported from Hastinapur, Ahichchhatra, Sravasti, Mathura etc. Other types of human figurines are prepared by moulding technique. The representation is generally conceptual rather than realistic. These have been reported from Kausambi, Mathura etc. The figurines with animal faces have been reported from Ahichchhatra, Mathura etc.

### **Animal Figurine**

These figurines in the early NBPW phase are crudely moulded. Bulls, rams from Alamgirpur and animal figurines of elephant and horse from Mathura, Bhita, Prahladpuretc have punched circles, incised lines etc. In the Late NBPW phase elephant figurine out number others. These have punched or circlet design with decorated bands around neck.

Hastinapur, Sravasti, Mathura, Kausambhi have yielded such specimen depicting various animal forms. Serpail figurines have been reported from Prahladpur, Sanepur etc. Horse was another favorite theme. Hastinapur, Sravasti, Kausambhi have such specimen. Among other animals mention may be made about the unfinished lion figurine from Hastinapur, dogs from Mathura, Kausambhi; monkey figurine with three legs from Mathura, deer's from Kausambhi. A figure with female head and horse body from Ahichchhatra is a mythical figurine, specimens in the form of a ball headed *naga* are important specimen from Mathura. Some

‘Vyal’ figures depicting human heads and animal body have also been reported from Mathura, Ahichchitra etc. A bird figurine from Allahpur is also interesting.

### **Miscellaneous objects**

A wide range of other terracotta objects are also found. These include terracotta pestles or grinders studded with multicoloured stone. These have been reported from Atranjikhhera, Ahichchhatra, Hastinapur, Alamgipur and Allahpur. Terracotta dabbers from Sravasti; stoppers from RajghatHastinapur; cart wheels from Rajghat gamesmen and balls from Prahaladpur, Hastinapur, Rajghat; toy cart framefrom Atranjikhhera; skin rubbers from Hastinapur, Kausambhi; A terracotta fragment of mosaic/probably used for floor from Atranjikhhera; a terracotta printing block Atranjikhhera; ritualistic object from Sravasti are important. Hastinapur has yielded a seal with impression weightshave been reported from Jajmau ivory comb have been reported from a few sites. Besides discs from Jajmau, awls, bangle from Jajmau are important. A horn tooth pick and a ring were reported from Mathura. Ear studs of terracotta are reported from Mathura, a serpentine pendants from Ahichchitra etc. were also used as ornaments.

### **Coins**

In the early NBPW phase, the excavated material showed that the economy was basically rural and based on agriculture and supplanted by the hunting, fishing and little trade but soon change took place. The rural self sufficient economy gave to

surplus production to trade, growth of urban centers where non agriculturist population increased. The trade led to the introduction of metallic currency which was perhaps initiated by merchant guilds or *SrenisorNigamas*. These guilds came into existence account of the prevailing social and political conditions for the industrial or mercantile classes. During the Pre Mauryan times a number of guilds came into existence as is evident from the Buddhist literature. The fusion from later trade to metallic currency was a slow process. How and when coins came into existence in India is any body's guess. But prior to the sixth century BCE all the *Mahajanapadas* had their distinct currency. Thus process may have taken at least a couple of centuries and we can safely place the origin of coins in about 8<sup>th</sup> century BC. Which of the sixteen *Mahajanapadas* was the earliest one to experimental with metallic currency we do not know. The excavations shed little light on this aspect and secondly archaeologists were more concerned about pottery types and other aspects and hence, gave little attention to this aspect. Sometimes even the exaction repeats give the evidence of coins but did not elaborate about the metal and type of coins.

The recent discovery of unfinished black circulating as currency along with functional bent bars from Gandhara region ( Hardakar: 2005-06: 1-6) and a hoard about 50 pieces including 7 unmarked silver blanks of standard weight along with those bearing a bold punched symbol, found in miniature pot from Narhan ( District, Gorakhpur) can be considered as a transition from metal to coinage ( Handa, 2014: 430). P.L. Gupta has classified these pieces into five types and have attributed them to the Malla, Magadha and Vajji tribes ( Gupta 1996: 1-24).

Whichever *Mahajanapadas* or *janapada* may have initiated the metallic currency, but the fact is that all the sixteen *Mahajanapadas* and some republican tribes have their coins with peculiar symbols. In the area under the present studies some of these *janapada* had their area of occupations. These include Kuru, Panchala, Sursena and Vats etc.

The excavations conducted at numerous sites have yielded coins and these sites are Bhita, Butesvara, Hastinapur, PuranaQila, Hulaskhera, Prahladpura, Sringaverapur and others. But very few details of these are available. On the basis of the excavated and explored specimens scholars have identified and classified the coins of various *Mahajanapadas*.

The coins of Kuru-Janpadas are of silver,  $\frac{1}{2}$  *Karshapan's* having one composite symbol on the face of unified coins. Those are square in size 11x7 to 12x11 mm. The symbol include either a fish with dots and taurines or a bull/elephant with rider ( Raygor 2001: 16).

Coins of Panachals are of silver and have been found in three denominations, *mashka*  $\frac{1}{4}$ , *Karshapana*,  $\frac{1}{2}$  *Karshapana* weight. These coins have a big central symbol.

Sursena coins are known in two documentation (1) *Mashaka* and (2)  $\frac{1}{2}$  *Karshapana*. Weighing 1.8g and 0.3g respectively. These coins have lion to right with fish on left and other small symbols.

Silver coins of Vatsajanapada have been issued with 4 symbol pattern consisting of a pair of symbol and two odd symbols ( Haidekar 1981: 292). Weight standard of these coins are of *Karshapana* standard. When the Magadha

*Mahajanapadas* became an empire, then the universal Punch Marked coins came into circulation. These coins have five Punch Marked symbols on the obverse and reverse is generally blank. Such coins have been found in Hastinapur, BhitaButeshvara, Srngaverapura etc. During the late Mauryan times copper Punch Marked coins came into existence and apart from explorations some excavations vizSrngaverapura and Prahladpura have yielded such coins. During the same period uninscribed cast coins were also current. Bhita, Srngaverapura, Hastinapur, PuranaQila, Prahaladpur excavations have yielded copper cast coins of various types.

During the course of exploration researcher collected some specimens of NBPW and some were studied in GurkulJhajjar, Museum, Haryana which are described below.

#### **Pl. 6.1 Grey Ware associated with NBPW**

1. Hemispherical bowl of coarse grey ware, made of well levigated, well fired, featureless rim from Ahichchhatra.
2. Bowl of coarse grey ware, made of well levigated, well fired, thickened rim, flat base, from Ahichchhatra.
3. Bowl of coarse grey ware with vertical futureless rim, it is bluntly towards round base; from Ahichchhatra.
- 4.

#### **Pl. 6.2 Grey Ware associated with NBPW**

1. Vase of a coarse grey ware, made of well levigated clay, concave neck and pointed rim, from Hastinapur.

2. A miniature vase of a coarse grey ware, made of well levigated clay, concave neck and thickened rim, from Hastinapur.

#### **Pl. 6.3 NBPW and associated Grey Ware**

1. Bowl of NBPW with vertical futureless rim, it is bluntly towards round base; from Ahichchhatra.
2. Hemispherical bowl of NBPW, made of well levigated, well fired, featureless rim from Ahichchhatra.
3. Bowl of NBPW with vertical futurelessrim, it is bluntly towards round base; from Kausambi.
4. Lamp of a red ware, from Kausambi.
5. Hemispherical bowl of NBPW, made of well levigated, well fired, featureless rim from Ahichchhatra.

#### **Pl. 6.4 NBPW and associated Grey Ware**

1. Base of a bowl cum lid of grey ware, flat base, from Ahichchhatra.
2. Fragment of a bowl with vertical sharpened rim and incurved sides of coarse grey ware, from Kausambi.
3. Body fragment of a coarse ware vase, made of well levigated clay, from Kausambi.
4. Base of a coarse gery ware bowl, decorated with stamped design, from Kausambi.

#### **Pl. 6.5 Northern Black Polished ware**

1. Fragment of a bowl NBPW, featureless rim and incurved sides, from Kausambi.
2. Fragment of a bowl NBPW, featureless rim and incurved sides, from Kausambi.
3. Bowl of NBPW with vertical featureless rim, it is bluntly towards round base; from Kausambi.

#### **Pl. 6.6 Northern Black Polished ware**

1. Fragment of a dish NBPW, featureless rim and incurved sides, from Kausambi.
2. Fragment of a dish NBPW, featureless rim and incurved sides, from Kausambi.
3. Fragment of a dish NBPW, featureless rim and incurved sides, from Kausambi.
4. Fragment of a dish NBPW, featureless rim and incurved sides, from Kausambi.
5. Ring base of a NBPW vase, from Kausambi.

#### **Pl. 6.7 Northern Black Polished ware**

1. Fragment of a dish NBPW, featureless rim and incurved sides, from Kausambi.

2. Fragment of a dish NBPW, featureless rim and incurved sides, from Kausambi.

#### **Pl. 6.8 Northern Black Polished ware**

1. Base fragment of a flat base of NBPW dish, lower portion is decorated with appliqué design, from Kausambi.
2. Flat base of NBPW dish, from Kausambi.

#### **Pl. 6.9 Terracotta bird figurine**

1. Fragment of a terracotta bird figurine, made of well levigated clay, well fired. Neck portion is decorated by two incised lines, back portion is missing; from Kausambi.
2. Fragment of a terracotta bird figurine, made of well levigated clay, well fired. Neck portion is decorated by two incised lines, partly broken, treated with orange slip; from Kausambi.

#### **Pl. 6.10 Terracotta bird figurine**

1. Fragment of a terracotta bird figurine, made of well levigated clay, well fired, treated with black slip; from Kausambi.
2. Fragment of a terracotta bird figurine, made of well levigated clay, well fired, treated with black slip; from Kausambi.
3. Fragment of a terracotta bird figurine, made of well levigated clay, well fired, treated with black slip, one wing is partly broken; from Kausambi.



4. Fragment of a terracotta bird figurine, made of well levigated clay, well fired, treated with black slip; from Kausambi.
5. Fragment of a terracotta bird figurine, made of well levigated clay, well fired, treated with black slip, one wing is partly broken; from Kausambi.

**Pl. 6.11 Terracotta animal figurine**

Terracotta figurine of a loin, made of well levigated clay, well fired, treated with orange slip, hind portion and back legs are missing; from Kausambi

**Pl. 6.12 Terracotta animal figurine**

Terracotta figurine of a elephant, made of well levigated clay, well fired, treated with orange slip, hind portion, back legs and tusk are missing; from Kausambi

**Pl. 6.13 Terracotta wheel**

1. Terracotta wheel or disk, decorated edges, a perforation is made in center, from Kausambi.
2. Terracotta wheel or disk, a perforation is made in center, from Kausambi.
3. Terracotta wheel or disk, a perforation is made in center, from Kausambi.

**Pl. 6.14 Terracotta disc**

1. A terracotta disc, made of well levigatedcaly, well fired and decorated with zig-zag incised line, from Ahichchhatra.

2. A terracotta disc, made of well levigatedcaly, well fired and decorated with nail impression along with circumference, from Ahichchhatra.

**Pl. 6.15 Terracotta textile dies**

1. A textile stamp with knob on back side, from Ahichchhatra.
2. A textile stamp with knob on back side, from Ahichchhatra.

During the course of exportations researcher found some Punched Marked coins. Apart from these some coins were laying with the local villagers. Punched Marked coins were minted around 6<sup>th</sup> century B.C.E. by the various *Mahajanapadas*. Most of these coins had symbols. These coins were made of silver of a standard weight but have irregular shape. This was gained by cutting up silver bars and then making the correct weight by cutting the edges of the coin. Coins found during the course of explorations are described below:

**Pl. 6.16 & 6.17 Silver Punched Marked**

**Pl. 6.16 & 6.17 No. 1**

<b>Metal</b>	:	Silver
<b>Shape</b>	:	Rectangular
<b>Size</b>	:	18 x 12 mm
<b>Weight</b>	:	3.36 gm

**Provenance** : IshapurTil

**Obverse** : Five symbol

**Reverse** : One symbol

**Pl. 6.16 & 6.17 No. 2**

**Metal** : Copper

**Shape** : Rectangular

**Size** : 14 x 11 mm

**Weight** : 2.33 gm

**Provenance** : IshapurTil

**Obverse** : Five symbol

**Reverse** : one symbol

**Pl. 6.16 & 6.17 No. 3**

**Metal** : Copper

**Shape** : Square

**Size** : 14 x 14 mm

**Weight** : 2.11

**Provenance** : IshapurTil

**Obverse** : Five symbol

**Reverse** : One symbol

**Pl. 6.16 & 6.17 No. 4**

**Metal** : Silver

**Shape** : Circular

**Size** : 15 mm

**Weight** : 2.37 gm

**Provenance** : IshapurTil

**Obverse** : Five symbol

**Reverse** : One symbol

**Pl. 6.16 & 6.17; No. 5**

**Metal** : **Silver**

**Shape** : Rectangular

**Size** : 14 x 13 mm

**Weight** : 2 gm

**Provenance** : IshapurTil

**Obverse** : Five symbol

**Reverse** : One symbol

**Pl. 6.18 &6.19 Copper Punched Marked**

**Pl. 6.18 & 6.19; No. 1**

**Metal** : Copper

**Shape** : Circular

**Size** : 15 mm

**Weight** : 3.77 gm

**Provenance** : IshapurTil

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.18 & 6.19; No. 2**

**Metal** : Copper

**Shape** : Circular

**Size** : 3.30 gm

**Weight** : 15 mm

**Provenance** : IshapurTil

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.18 & 6.19; No. 3**

**Metal** : Copper

**Shape** : Rectangular

**Size** : 11 x 10 mm

**Weight** : 1.78 gm

**Provenance** : IshapurTil

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.18 & 6.19; No. 4**

**Metal** : Copper

**Shape** : Rectangular

**Size** : 15 x 14 mm

**Weight** : 1.71 gm

**Provenance** : IshapurTil

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.20 & 6.21 Silver Punched marked coins**

**Pl. 6.20 & 6.21; No. 1**

**Metal** : Silver

**Shape** : Rectangular

**Size** : 14 x 10 mm

**Weight** : 2.89 gm

**Provenance** : Hastinapur

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.20 & 6.21; No. 2**

**Metal** : Silver

**Shape** : Rectangular

**Size** : 15 x 11 mm

**Weight** : 3.34 gm

**Provenance** : Hastinapur

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.20 & 6.21; No. 3**

**Metal** : Silver

**Shape** : Rectangular

**Size** : 15 x 12 mm

**Weight** : 2.96 gm

**Provenance** : Hastinapur

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.20 & 6.21; No. 4**

**Metal** : Silver



**Shape** : Rectangular

**Size** : 14 x 10 mm

**Weight** : 2.86 gm

**Provenance** : Hastinapur

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.20 & 6.21; No. 5**

**Metal** : Silver

**Shape** : Rectangular

**Size** : 12 x 10 mm

**Weight** : 3.18 gm

**Provenance** : Hastinapur

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.20 & 6.21; No. 6**

**Metal** : Silver

**Shape** : Rectangular

**Size** : 12 x 10 mm

**Weight** : 3.28 gm

**Provenance** : Hastinapur

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.22 &6.23 Silver Punched marked coins**

**Pl. 6.22 &6.23 ; No. 1**

**Metal** : Silver

**Shape** : Circular

**Size** : 17 mm

**Weight** : 2.86 gm

**Provenance** : Hastinapur

**Obverse** : Five symbols

**Reverse** : One symbol

**Pl. 6.22 &6.23 ; No. 2**

<b>Metal</b>	:	Silver
<b>Shape</b>	:	Circular
<b>Size</b>	:	16 mm
<b>Weight</b>	:	2.85 gm
<b>Provenance</b>	:	Hastinapur
<b>Obverse</b>	:	Five symbols
<b>Reverse</b>	:	One symbol

**Pl. 6.22 &6.23 ; No. 3**

<b>Metal</b>	:	Silver
<b>Shape</b>	:	Circular
<b>Size</b>	:	11 mm
<b>Weight</b>	:	2.82 gm
<b>Provenance</b>	:	Hastinapur
<b>Obverse</b>	:	Five symbols
<b>Reverse</b>	:	One symbol

**Pl. 6.22 &6.23 ; No. 4**

<b>Metal</b>	:	Silver
<b>Shape</b>	:	circular
<b>Size</b>	:	13 mm
<b>Weight</b>	:	3.02 gm
<b>Provenance</b>	:	Hastinapur
<b>Obverse</b>	:	Five symbols
<b>Reverse</b>	:	One symbol



**Pl. 6.1 Grey Ware associated with NBPW, Ahichchhatra**



**Pl. 6.2 Grey Ware associated with NBPW, Hastinapur**



**Pl. 6.3 NBPW and associated Grey Ware, 1,2&5:Ahichchhatra; 3&4 Kausambi.**



**Pl. 6.4 NBPW and associated Grey Ware, 1:Ahichchhatra; 2,3&4:Kausambi.**



**Pl. 6.5 Northern Black Polished ware, Kausambi**



**Pl. 6.6 Northern Black Polished ware, Kausambi**



**Pl. 6.7 Northern Black Polished ware, Kausambi.**



**Pl. 6.8 Northern Black Polished ware, Kausambi**





**Pl. 6.9 Terracotta bird figurine, Kausambi.**



**Pl. 6.10 Terracotta bird figurine, Kausambi.**



**Pl. 6.11** Terracotta animal figurine, Kausambi



**Pl. 6.12** Terracotta animal figurine, Kausambi.



**Pl. 6.13 Terracotta wheel, Kausambi.**



**Pl. 6.14 Terracotta disc, Ahichchhatra.**



**Pl. 6.15 Terracotta textile dies, Ahichchhatra.**



**Pl. 6.16 Silver Punched Marked coins (obverse), Ishapur Til**





**Pl. 6.17 Punched marked coins (reverse), IshapurTil.**



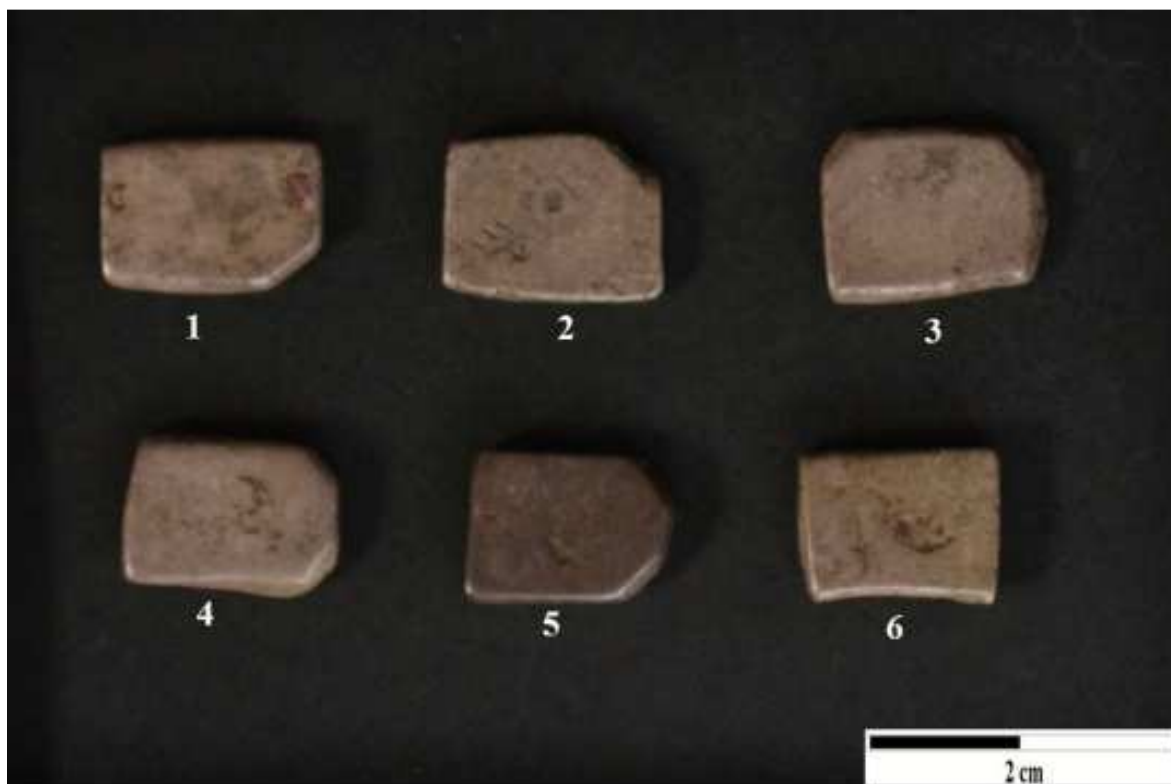
**Pl. 6.18 Copper Punched Marked coins (obverse), IshapurTil.**



**Pl. 6.19 Copper Punched Marked coins (reverse), IshapurTil.**



**Pl. 6.20 Silver Punched marked coins (obverse), Hastinapur.**



**Pl. 6.21 Silver Punched marked coins (reverse), Hastinapur.**



**Pl. 6.22 Silver Punched marked coins (obverse), Hastinapur.**



**Pl. 6.23 Silver Punched marked coins (reverse), Hastinapur.**