

Development of Ceramic Tradition in Haryana with special reference to the Northern

Black Polished Ware Assemblage

Devender Singh

(Research Scholar, Department of Ancient Indian History, Culture & Archaeology,
Kurukshetra University Kurukshetra, Haryana)

Abstract: This paper introduces the culture assemblage through the ceramic tradition with the special reference of Haryana and this study examines cultural sources of variation in ceramic compositional patterning. The state of Haryana holds a glorious place in the cultural history of India. The Haryana region, which know the special landmark of Harappan civilization and after the decline of this civilization, this region was succeeding by various cultures such as PGW, NBPW, Sunga-Kushana and Gupta's in early historic period. The main objective of this paper will be an overview of advancement and transformation in the perspective of culture through pottery and observe the relationship with other cultures in early historic period in Haryana. Ceramics are playing main role to know any civilization characteristic.

Introduction

The land of Haryana has a tradition of rich cultural and archaeological heritage from earliest times. The high fertility land of this region gave impetus to the origin and development of culture from Hakra to Late Harappan civilization continuously and more than that. Later on, the state was also occupied by the Painted Grey ware, the Northern Black Polished ware, the Mauryas, the Sunga-Kushanas, the Guptas, the Vardhanas, the Tomaras, the Gurjara-Pratiharas period. Large numbers of historical sites related to these cultures have been discovered in Haryana. Some new findings have come to light in excavations carried out at Khokhrakot, Sugh, Daulatpur, Naurangabad and Raja Karan ka Qila, Harsh ka Tila, Autha, Kasithal, Adi Badri. Reports of these sites are not available, but on the basis of field work done by scholars interim reports are available to us for better understanding of these explored sites.

The Ancient communities of this state were farming communities and with the passage of time many centers of Ancient Culture energize in the state. Some of these centers developed as planned urban centers. Though, the historical record of earliest times to Pushyabhuti period of Haryana region is very scanty, we have to rely on archaeological sources at our disposal for the reconstruction of the early history of this region.

Ceramic Industry

Pottery making is the oldest profession that was started in the Neolithic phase to fulfill basic necessities of human life. Being one of the oldest crafts, man has expressed his feeling and his aesthetic sense in the clay. He forms various vessels to store of liquid material and grain which are the parts of primitive deities. It is one of the most ancient arts that had grown up with human civilization. Various forms of terracotta such as bricks, pottery, figurines etc. were made for various purposes in Harappan period ceramic industry was developed in multi manners. But in P.G.W. cultural phase and onward, there is distinct character in the ceramic industry. Painted Grey Ware is a pottery made on fast wheel, well-fired and well decorated with design such as geometrical line, trees, leaves, birds etc. Design on pottery surface executed in numerous types of colours such as black, orange and red colours. Painted Grey Ware was succeeded by a new and striking pottery, commonly

known as Northern Black Polished ware (NBPW) which is assigned the time bracket from 600 to 100BC. It is the finest economic ware, which has a thin black slip, some of shards also have varieties slip such as of grey, red ochre and silver and gold. The NBPW is the most distinctive ware as they were made of a high degree of technological excellence. During the Mauryan period, pottery is distinguished by its unique style of painted motifs and composition as important components of ceramics. In this period, pottery was decorated by various designs like zigzag pattern, wave's lines, human figures, bird's motifs and other religious symbol profusely. After this, during the dynastic rule of Kushana, Shaka and Gupta period pottery form were mostly used for domestic and commercial purpose. However due to the imposition of tax on rural community, the decorative pottery work lost its significance during the post Gupta period.

The Pottery Intricate of the NBPW Period

Northern Black Polished Ware period marks the zenith of technology in the field of fine pottery making. Spread widely in time (from 6th to 2nd century B.C.) and space (from Taxila in north east to Tamruk (WB) in east and Amravati in south). Heavy forms like storage jars and globular pots are conspicuous by their absence in NBP ware. In the Haryana region, many sites have been represented NBPW and associated ware in same time bracket. Such types of pottery are found at excavated sites as Sugh, Autha, Harnol, Muhammadnagar (Havanagar), Khokhrakot in Haryana. It appears that these fine pots were sparingly used like the very fine china sets of today. From the emerging pattern it is well indicated that the Northern Black Polished Ware occurs in two distinct horizons or two sub-periods, termed as the Early Phase of NBPW and the Late Phase of NBPW.

Early Phase of NBPW

NBP was first recognized by Sir John Marshall in the year 1911-12 from Bhita excavations.

¹ Later he again found more sherds of NBPW from the lower strata of Bhir mound excavations at Taxila. He called these sherds as fine black lustrous pottery and thought that these were similar to the Greek Black Ware. Further he ascribed its introduction in the sub-continent with the advent of Greeks in India.² But its discovery in the pre-Mauryan level at Bhita, however, was of interest and Cardington on the basis of insufficiently precise nature of diggings at Bhita, thought such an early date of NBPW, as untenable.³ This was the status of the ware till 1945. In 1946, not only an up-to-date list of the distribution of the ware was published, but its distinctive fabric was also described by Wheeler and 196 Krishna Deo. Referring to the limited specimens of NBP from Ahichchhatra and Taxila they described it, "The fabric is a finely levigated clay which is usually grey but sometime reddish in section, with a brilliantly burnished slip off, the quality of a glaze, from black to grey and a metallic steels-blue, occasionally varied with reddish brown coated black ware which occur also in South India". After the excavations of Hastinapura, B.B. Lai and B.K. Thapar⁴ gave more precise and detail definition of this pottery in 1954-55. This definition of NBPW having usually thin section, grey core and distinctive glossy luster as given by Wheeler-Deo and Lal-Thapar was universally accepted. With this distinctive fabric in mind, it has been described by S.B. Deo, Ansari and Wheeler in 1958-1959, Thapar again

¹ J. Marshall, 'Excavations at Bhita', *Annual Report of the Archaeological Survey of India*, (Calcutta, 1901-1910), P. 40. Also Annual Report of the Archaeological Survey of India, 1911-12, pp. 37, 80 and 81.

² J. Marshall, Taxila, vol., II, (Cambridge, 1951), p. 432.

³ K. de B. Cardington, Man, (1929), no. 101. Marshall's observation regarding the Occurrence of fine black lustrous sherds (NBP) in the deposits of the 7th-8th century B.C.

⁴ B.K. Thapar, Ancient India, nos. 10 and 11, pp. 50-5

in 1967, K.K. Sinha⁵ and A.K. Narain in 1967. A careful study of the above definition of NBPW shows that it does not cover all the types of NBPW.

A possible explanation for this may be at except at some sites of Haryana, the occurrence of NBPW was very limited. Even on a few where the number was large the emphasis was laid only on those sherds which were highly lustrous. In the beginning when not many sites were excavated the above definition of NWPW could have hardly been possible. But all NBPW are not tope graded, i.e. not so highly lustrous and thin in section. Hence the concept of this standard NBPW has to be revised. Now it appears that NBPW is not a single homogenous type of ware as defined earlier produced out of one single technique. On the basis of surface colour treatment and manufacturing technique, two very clear and broad strains in it.

(1) Monochrome NBPW (NBPW having one shade of colour)

(2) Bichrome NBPW (NBPW having two shades of colour)

Monochrome NBPW

The surface colour of about ninety percent of the sherds in this group is jet-black or brownish black or bluish black. The remaining ten percent are steel blue, pinkish, silvery, brown, chocolate, violet and deep red. All these colour variations may not be intentional. Such type of fabric has been found at Harnol, Raja Karan ka Qila, Sugh, Khokhrakot in Haryana.

These types of pottery having a fine body fabric with thin section. The sherds have a glossy surface with highly lustrous sheen and it is difficult to scratch their surface with a nail or knife. These pieces, when struck, give a sharp metallic sound. These may be called as top graded NBPW. There was complete harmony between the type of the slip, firing and the clay body with the result not a single sherd in this fabric shows any kind of defect like crazing and crawling etc. These are perfect specimens of NBPW in which the potter has put his hand, heart and mind. It was a prized commodity and hence referred by as 'deluxe' ware of the time. It was in limited supply due to less potting or high cost of production. This fabric had its root in the early phase of NBPW which was its also formative period. Its occurrence in the Late Phase of NBPW, admittedly in a small numbers, may indicate its survival as a treasured fabric. It is mostly this fabric of NBPW, which has been defined, dealt at length and technically examined by various scholars. The flanged and corrugated bowls are the only shaped of far reported in this fabric. Dishes are not found in this fabric.

- (1) The nature of clay used is well levigated and does not show any sign of tempering material.
- (2) The core is always grey. Below a thin slip of shining black or any other colour, a grey surface (both Outer and inner) is seen. This shows that all the pots in these two fabrics were fired under reducing condition.
- (3) The paste is fine and the pots were invariably potted on a fast wheel.

There are few sherd are usually black and red but other modification of colours are also found. These are invariable thin in section and have a lustrous finishing. The shapes are also restricted to bowls and dishes but the colour combination of black and red appears to have been produced by process of inverted firing. But these are definitely different from the black and red wares which are also found associated with NBPW in the early phase of NBPW. This associated black and red ware is poor in firing and texture. The core in this case is highly porous, thick and gritty and the shapes are also different.

⁵ K.K. Sinha, Excavations at Sravasti, (1967), pp. 224-23.

Another coarser variety of NBPW is more prolific in the late phase of NBPW and very distinctive of this phase. The sherds are thicker in section, having darkened unoxidised smoky core and relatively low fired. The surface colour of the pot ranges from dull black to dull grey. The surface dressing is either a self slip or a wash. Most of the pots were without any slip treatment. The fabric as a whole is crude and debased. In the general repertoire of the pot in this fabric, the occurrence of small sized bowls and dishes, basins, carinated handis and vases are particularly noteworthy.

Bichrome NBPW

These are also typical NBPW sherds. Their chief characteristic is that they exhibit the combination of two colours, mostly contrasting in shade, having been employed on vessels. The surface colour in the monochrome group of NBPW is always one although there is wide range of colour variations. In this variety a design in one colour is set off against the other, so that, there may not be any overlap between two colours. It is in these sherds that we have some designs which appears to have been copied from the painted designs of the PGW. This type of pottery have found at Sugh, Harnol, Khokhrakot in Haryana.

The common pattern of producing thick and thin horizontal bands, vertical strokes, vertical stroke coming out from a horizontal rim band, transverse band or arches common in the Painted Grey Ware are also found in the bichrome variety of NBPW. The upper portion of the body has the better quality of lustre and colour while the lower portion a less superior finish and different colour, Such types of sherds have been also reported from Sravasti.⁶ So on PGW the designs are pigment colour oriented. But in painted NBPW, it is slipping colour oriented in which one colour is set off against the other.

Although it can be inferred that few designs have been derivative from the PGW, but the technique of painting totally differs. The most common specimens in this group are the sherds in which a design in black is set off against the red or a design in red is set off against the black, in both cases, there was no overlap between the red and black areas. The shapes are similar than the ones which commonly occur in other fabrics of this group.

From above showing it is apparent that NBPW is not a single homogenous type produced out of a single technique. It has out grown its definition and is now a big institution under which several other types find their affiliation. In this connection it is pertinent to refer to S.P. Gupta's comment in which he rightly asserted that NBPW has out grown its limit and how can one, therefore, suggest a single term that may justify the existence of all these wares.⁷

The ware has also not lost its value as a self datable criterion. All that we have to see is its true context. For now NBPW is found in two clear phases, the Early Phase of NBP and the Late Phase of NBP. The associated material and date of both these phases differ.

The Associated Wares of the Early Phase of NBPW

The entire range of the associated wares in the Early Phase of NBP comprises mainly of four ceramic industries found in Haryana.

- (1) The PGW (2) The plain grey ware
- (3) The Black slipped ware (4) The Red ware.

On examination of several unpublished material and excavation reports, all these wares are similar in fabric and types with the associated ceramic of the PGW complex and hence need not be retraversed here. However some differences which are very clear may

⁶ K.K. Sinha, in Excavations at Sravasti, (1967), p. 23.

⁷ This comment was given by S.P. Gupta at the seminar of NBP held by the Indian Archaeological Society in 1971 at New Delhi. See Puratattva no. 5, (1971-72), p. 36.

be noted. Pottery of this category found in Sugh, Autha, Raja Karan ka Qila and Harnol in Haryana.

- I. The nature of clay used is well levigated and does not show any trace of tempering material.
- II. The pots were generally fired in a reducing condition resulting in grey cores. Outer surface turns grey or black or their modifications. Grey core is such a distinguishing feature of this group that even in the red varieties of the PGW found at the excavated site of Sugh.
- III. All these show similar tradition of shapes. Bowls and dishes are the most common. Vases and basins are rare and heavier shapes are entirely absent. Basically all the wares in this group represent a type of table wares. The PGW and fine NBPW, show there deluxe nature. Pointing to the similarity between PGW and the NBP is the technical details of the PGW like well levigated clay, superior quality of paste, wheel-turned, thin well burnt section, blackish grey core and grayish-brown or even dark in surface colour are quite akin with that of NBP. Of course, there is slight difference in the surface treatment and the abundance of the painted specimens of the PGW. Coming to the typology of the vessels, also find that the straight sided, hemispherical, convex and corrugated bowls of the PGW occur in the NBP Ware. The carinated, subovaloid and convex sided dishes also occur in both these types of ware. Then both these wares have not yet yielded any heavy vessels like storage jars and globular pots. The main attraction point finds that in almost the technical details including even the typology both the wares are similar.⁸
- IV. In the tradition of paintings there is also apparent similar between the wares of this group. The painted designs of the PGW giving way to slip designs of the NBP. The common pattern of producing thick and thin horizontal bands, vertical strokes, vertical strokes coming out from a horizontal rim band, transverse band or stroke and simple circular bands or arches common in the PGW. According to B. P. Sinha⁹ the designs on Chirand pottery compare well with PGW designs. K.K. Sinha also felt that painting tradition of the black-and-Red ware has a tendency to borrow the paintings of the PGW. Not only this but the reserve technique used in PGW is found on black-and-red ware and black slipped ware. Thapar¹⁰ defines the technique saying that the designs has been picked out in yellow or pale red by painting the rest of the surface of the pot in thin dark slip.

The Pottery Intricate of the Late Phase of NBPW

The pottery of this phase suffered decline not only in the quality of the clay, shaping, and surface treatment but also in firing. The black-and-red ware was completely absent. In the beginning of this phase, the PGW and black slipped ware were found almost in negligible quantity but as the time rolled on; their use was also given up completely. NBPW, however, continued but considerably decreased in number. Instead the people during this phase developed another class of pottery known to the archaeologists as coarse grey ware and coarse NBPW. In addition to these two wares, which may be regarded as the main distinguishing feature of this phase, the people also used unslipped Red ware. In

⁸ T.N. Roy, 'Stratigraphical position of the PGW in the Gangetic Valley', Bharati no. 8 part II, (1964-65), p. 69.

⁹ B. P. Sinha, in *Potteries in Ancient India*, (Patna, 1969), p. 111.

¹⁰ B.K. Thapar, *Ancient India*, nos. 20 and 21, 1967, pp. 71-75.

contrast to the preceding PGW and Early NBPW Phases, the pottery from this phase clearly display lack of sophistication and is essentially utilitarian. The late phase pottery of NBPW has been recovered from Kasithal, Raja Karan ka Qila, Sugh, Autha, Muhammadnagar in Haryana.

(1) Coarse Grey Ware

Coarse Grey ware recovered from Daulatpur (Kurukshetra) period III, Raja Karan Ka Qila (Kurukshetra) period I.¹¹ The grey ware of this phase is generally coarse and thicker than the PGW and plain grey ware of the preceding phase. The ware has grey gritty core and blackish-grey surface and is not fired at such a high degree of temperature as the PGW or plain grey ware. The ware as a whole is crude and does not exhibit any painted designs, Bowls and dishes continue to occur also in this fabric. There are, however, some additional types in the coarse grey ware of this phase, viz. featureless carinated handi and basins with collared rim, occasionally 'lipped' and bowls with internally beveled rim. Noteworthy exception in this class of pottery are the bowl and dishes which are decorated on the interior of the base with impressed designs of raised concentric circles often with a central knob or groove or rosettes.

(2) Coarse NBP Ware

Though the people had not given up the use of highly lustrous sherds of NBP (fabric A or top-graded NBP) altogether, but they did not find this deluxe variety suitable for their daily use. So they had to develop another variety of NBP which is quite distinct in colour and fabric from the top graded NBPW which was so common in the preceding early phase of NBP. This ware is thicker in section, having darkened unoxidised smoky core and relatively low fired. The surface colour of the vessels ranges from black to dull grey. The surface dressing is either a self slip or a wash. The fabric is debased and crude. The general repertoire of the pots in this group, consist of small sized bowls and dishes, vases, basins and carinated *handi* (the type occurring in the coarse grey ware). Such type of pottery found at Sugh (Yamunanagar).

(3) Unslipped Red Ware

In the Red ware, which was generally of medium fabric and unslipped the most striking types were, pear shaped vases popularly, carinated handi(the type found in coarse grey ware and coarse NBPW), basins with lug handles, shallow bowls with flat base and dishes with sagger base. The most important pottery such as rimless handi are the characteristic shapes of the associated Red ware of the Late Phase of NBPW recovered from Kasithal (Kurukshetra) period II, Sugh and Khokhrakot.

Shapes

The generally shapes of NBPW ware include bowls, Handis, Dishes and jars. Beside these other shapes such as knobbed lid, vessels and spouts vessel or jar too are gathered. Though shaped in NBP Ware were limited to small vessels used for drinking and eating articles of food, the potter created a number of sub-shapes by effecting minor changes either in rim portion or in base of the pot. The changing in this culture such as, introduced a number of newer shapes in pots by just changing the shape of rim portion of the pot.

NBPW potters were also familiar with the technique of making ridge, grooves and lugs. All these shapes created by the NBP ceramist speak of his creative talent, diverse and a highly perfected skill to execute complex forms.

Designs

¹¹ Indian Archaeological A Review, 1974-75: pp. 16; 1975-76: pp. 18.

During the age of Harappan civilization onward a change appears to be coming in the concept as well as the treatment of surface decoration. A waning in the tradition of elaborate painting for beautification of the pots is now clearly discernible, although a complete break with the traditional technique of ornamentation is not achieved. Not withstanding his preference of plain ware the NBPW potter decorated some of his pots by painted and incised designs some of which are small circles looking like sun, curvilinear pattern, parallel horizontal lines and dots, spiral design formed by circles, arches horizontal band, group of sigma, strokes, loops, etc., as found on some pots. But it is well to remember that occurrence of painted design on the surface of pottery in this period is rare as if to keep the PGW tradition of painting just alive.

Acknowledgement

I express my warmest gratitude to my Ph.D. supervisor Dr. Sukhdev Singh Saini, Department of Ancient Indian History, Culture & Archaeology, Kurukshetra University Kurukshetra, for his guidance and constructive suggestion to improve this research paper.

Excavated N.B.P.W. and Associated Wares Sites in Haryana

S.No	Sites/Geocoordinates	Tehsil/District	Cultural Sequence	Remarks	Reference
1.	Sugh (30° 14' N; 77° 35' E)	Yamunanagar	Pd I – PGW and NBPW Pd II – Early Historic red ware Pd III – Superfluous deposits of medieval period	(i) 15 m. high mound covering about 5 km. in circumference (ii) Sun dried and burnt brick structures and a monastery (iii) Kushana coins, large number of terracotta figurines, beads of semi-precious stones etc.	Excavation by B.C. Chhabra and Suraj Bhan (1963-64) IAR, 1998-99, p.24; 1965-66, pp.35-36, 1963-64, pp.27-28.
2.	Autha (27° 54' N; 77° 09' E)	Gurgaon	Pd I – PGW Pd II – NBPW Pd III – early centuries of Christian era Pd IV – medieval	(i) Red ware of early Christian centuries	Excavated by K.M. Srivastava IAR, 1964-65, p.33-34
3.	Harnol (27° 56' N; 77° 01' E)	Gurgaon	Pd I – Black slipped ware Pd II – PGW Pd III – NBPW Pd IV – Sunga Pd V – Kushana Pd VI – Late medieval	(i) Kushana deposit of approx 6.5m. divided into 2 sub periods (ii) Burnt brick structures (iii) Red ware, iron arrowheads, shell bangles, beads etc.	B.R. Mani, 'Archaeological Investigations in Mewat and Excavations at Muhammadnagar and Harnol (1997-98) Pragdhara No. 14, 2003-04, pp.209-210.
4.	Muhammadnagar	Gurgaon	Pd I – Black slipped ware Pd II – PGW	(i) 4 m. deposit of Kushana period (ii) Structures	Excavated by B.R. Mani in 1997-98 Pragdhara, No.

			Pd III – NBPW Pd IV – Sunga Pd V – Kushana Pd VI – Late medieval	(iii) Kushana coins, bangles, beads etc. (iv) Red ware	14, 2003-04, pp.201-05.
5.	Daulatpur (29°57' 40" N; 76° 55' 40" E)	Kurukshetra	Pd I – Late Harappan Pd II – PGW Pd III – Grey Ware associated with N.B.P.W. Pd IV – early medieval	(i) Red polished ware and stamped red ware from phase 2 of Pd. III (ii) Well planned structures of mud bricks (iii) Clay sealing and a seal	IAR, 1968-69, pp.8-9.
6.	Raja Karna Ka Qila (29°56' N; 76°48' E)	Kurukshetra	Pd I – PGW Pd II – Plain Grey Ware & red polished ware associated with N.B. P.W. Pd III – Late medieval	(i) Mud brick and baked brick structures (ii) Red ware (iii) Copper coins, beads of semi precious stones, shell bangles, hearths etc.	Excavated by U.V. Singh IAR, 1970-71, pp.15-16, 1971-72, p.24;
7.	Khokhrakot (28°50' N; 76°35' E)	Rohtak	NBPW, Yaudheya and Kushana	(i) Coin and coin moulds of Indo Greeks, Yaudheyas and Kushana rulers. (ii) 4.60 m. thick Kushana deposit from Pd. III (B) (iii) Structures of burnt bricks (iv) Red ware, two danpatras, gold and iron rings, shell, ivory and quartz beads etc.	IAR, 1986-87, pp.34-35.
8.	Kasithal (30° 03' N; 76° 56' E)	Kurukshetra	P.G.W. and Red Ware associated with late phase of NBPW		Excavated by J.P. Joshi (1975-76)

References

- Ansari, Z.D.,(1998) Evolution of Pottery forms and fabrics in India.

- Bhan, Suraj and Jim G. Shaffer. 1978. 'New Discoveries in Northern Haryana, Man and Environment'. Vol. II:
- Bhan, Suraj, (1969) *The Dawn of Civilization in Haryana*, JHS, Kurukshetra.
- Bhan, S. & Shaffer, J. G. (1978). *New discoveries in Northern Haryana*. Man & Environment. Vol. II.
- Bhan, S. (1964, 1965). *Report of excavation at Sugh*. Journal of Haryana Studies, Kurukshetra,
- Bhan, S. (1968) *Exvt. at Mittathal and other Exploration in Sutlej-Yamuna Divide*, Kurukshetra, 1975, Puratattva, 1972.
- B. P. Sinha, (1969) *Potteries in Ancient India*, Patna.
- Cunningham, A. (1970, 1972). *Archaeological Survey of India Reports. Vol. II (1862-65), XIV (1978-79)*. Varanasi.
- Datta, V.N. and H.A. Phadke. 1984. *History of Kurukshetra*. Delhi: Vishal Publication.
- Deswal, S. (2004). *Haryana: sanskriti evam kala*. Panchkula: Haryana Sahitya Academy.
- Handa, Devendra. 'The Republics and the foreign invaders in Haryana', *Punjab University Research Bulletin*, Vol. 19.
- Indian Archaeological- A Review, 1963-64
- Indian Archaeological- A Review, 1964-65
- Indian Archaeological- A Review, 1965-66
- Indian Archaeological- A Review, 1968-69
- Indian Archaeological- A Review, 1974-75
- Indian Archaeological- A Review, 1997-98
- Indian Archaeological- A Review, 2002-03.
- Joshi, J. P. 1993. *Excavation at BhagwanPura 1975-76 and other explorations & Excavations 1975-81 In Haryana, Jammu & Kashmir and Punjab*. New Delhi: Archaeological Survey of India.
- Kumar, Manmohan. 2005-06. 'Recent Exploration of Harappan sites in District Rohtak, Haryana'. *Puratattva No. 35:196-204*.
- Lal, B.B. 1954-55. 'Excavation at Hastinapur and other Explorations'. Ancient India.
- Mani, B.R. (2003-04). 'Archaeological Investigations in Mewat and Excavations at Muhammadnagar and Harnol, 1997-98', *Pragdhara*, No. 14.
- Marshall, J. 'Excavations at Bhita', *Annual Report of the Archaeological Survey of India*, (Calcutta, 1901-1910), P. 40. Also Annual Report of the Archaeological Survey of India, 1911-12.
- Narain, A.K. and T.N. Roy, *Excavations at Rajghat, Part II, The Pottery*, (Varanasi, 1977).
- Phadke, H. A. (1990). *Haryana: ancient and medieval*. New Delhi: Harman Publishing House.
- Puratattva no. 5, (1971-72).
- Ram, Silak (1976). Some Archacological observations on Protohistoric sites in Rohtak and Hissar Districts (Haryana):- *Archalological congress and seminar: 1972* (ed) U.V. Singh.
- Roy, T.N. 'Stratigraphical position of the PGW in the Gangetic Valley', *Bharati no. 8 part II*, (1964-65).

- Sengar, P.B. 'Excavations at Naurangabad', *Puratattva*, No. 35, 2004-05.
- Sharma, B.L. (2005). *Haryana - at a glance*. Agra: Sahitya Bhawan Publications.
- Singh, U. V. (1974). *Terracotta from Sugh*. *Journal of Haryana Studies*, VI(1-2)
- Sinha, K.K. Excavations at Sravasti, (1967).
- S.K. Saravati, A survey of Indian Sculpture, Calcutta, 1954
- Thakran, R.C. (2000). *Dynamics of Settlement Archaeology (Haryana)*. Delhi: Gyan Publishing House.
- Thapar, B.K. Ancient India, nos. 20 and 21, 1967.
- Yadav, K.C. (2000). *Haryana Itihash Awam Sanskriti Bhag-1*. New Delhi: Manhor Parkashan.
- Wheeler, Mortimer. Charsada, A Metropolis of the Northwest Frontier, (London, 1962).