
Recent Archaeological Investigation of Varanasi District, Uttar Pradesh, India

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Abstract: This paper seeks to investigate the ancient settlement pattern and archaeological material culture to support the oral and literary history and main reasons of disappearance of the sites in Varanasi. On the basis of archaeological records, it has been observed that, Pre-NBPW culture settlement were the earliest (3 %), followed by NBPW (8%), Sunga (11%), Kushana (27 %), Gupta (22%) and Early Medieval (29%). We have continuous records of human settlement up to Medieval Period. Most of the sites are situated on the bank of Ganga and Varuna River. It suggests that the district was occupied in Pre- NBPW period for a longer span of time. But as observed in other districts, the number and size of Kushana settlement was continued to increase. However Gupta Period settlement records are unsatisfactory and there is much decline in the number of sites in comparison of Kushana period. There is an increase of settlement in early medieval period but it is only the half of Kushana Period settlements. A comparative study of potsherds and antiquities recovered from these sites shows that they may be ascribable from Pre-NBPW to early medieval period. Sites of Ayar, Sarshawa, Harsos, Bahutra, and Zakhini are very rich in the sense of archaeological potential. Horizontal excavations of both the sites may be able to throw light on various aspects and give a new dimension to the archaeology of middle Ganga plain.

Keywords: Varanasi, Ganga, Exploration, Sunga, Kushana, Gupta, Northern Black Polished Ware

Introduction

Varanasi and its adjacent area on the scale of latitudes extends over an area of 25° 10'N to 25° 37'N and 82° 39'E to 83°10'E longitude. It is around 50 km away to the north of the great Vindhyan range margin, its southern point extends up to the Ganga Basin, and there it forms the flank of the peripheral bulge (Singh, 1955 & 1971). The city and

its adjoining areas stand at an average height of 76 meters above sea level (MSL) and have largely even topography with a low relief in kilometre-scale undulations. The Ganga is the most renowned river that flows through the city from south to direction. Geomorphologically the area is located in the Central Ganga basin of the Indian subcontinent. Its climate is tropical with a marked monsoonal effect. The area receives about 80 % of its annual rainfall of 1020 mm from the south-west monsoon during the months of July-August. In summer, the maximum temperature rises to 47°C and in winter, the minimum temperature drops to 40° C with the average annual temperature being 24° C. (Shukla and Raju 2008). This holy city surrounded by district Sant Ravidas Nagar in the west, Jaunpur in North West, and Ghazipur in the north and Chandauli in the east, and Mirzapur in the south. The eastern and the southeastern areas have the touch of the natural boundaries formed by River Ganga; on the other hand, Gomati makes the northern boundary. The reason behind this was the geographical horizon of Varanasi District Because Varanasi is situated at Middle Ganga plain and river Asi and Varuna tributaries of Ganga at Varanasi. The area, selected for the study, is well connected by the Grand Truck Road, which links the prominent northern and eastern cities of the country.

A Preview of Earlier Work

Varanasi has been center of attraction from ancient time hence archaeological researches in this region have been conducted by many scholars from time to time. Many sites have been investigated and have been reported (*Indian Archaeology -A Review*). Mention can be made of- Alexander Cunningham's, *Banaras, Sarnath*, Archaeological Survey of India., Four reports were made during the years 1862-63-64-65. (1871), F.O. Oertel's, *Excavation at Sarnath* (1908), Rai Krishna Das's, *Kashi- Rajghat Ki Khudayi* (1940), V. S. Agrawal's, *Rajghat Ke Khilauno ka Ek Addhyan* (1940) and *Varanasi Seals and Sealings* (1984), A. K. Narain and T. N. Roy's, *Excavations at Prahladpur* (1968). Other works on the study area are T.N. Roy's, *The Ganges Civilization* (1983), B. P. Singh and A. K. Singh's detailed report on 'Excavation at Sarai Mohana (1967-68) in Bharati (2004), the reports on *Excavations at Rajghat*, by A.K.Narain, T.N.Roy, P. Singh and P.K. Agrawala published in four volumes since 1976 onward.

Amongst the recent researches in the history and archaeology of Varanasi Region, the archaeologists of Banaras Hindu University have conducted extensive field investigations and excavated a few sites such as Aktha, Tilmapur, Ramanagar, Anai, Hariharpur, Agiabir, Dwarakapur, and others and published books based on archaeological investigations such as B.P. Singh, *Life in Ancient Varanasi- An Account Based on Archaeological Evidence* (1985), work is based on the excavation of Rajghat and antiquity gave detailed information about tools, clothes, economy and social life of Kashi. Vidula Jayaswal's, *From Stone Quarry to Sculpturing Workshop* (1998), *Aadi Kashi Se Varanasi Tak* (2011), Yadav S.K., Varuney Kshetra ka Puratattva (2010), V. Jayaswal, & Manoj Kumar, *Excavation at Ramnagar: Discovery of a Supporting Settlement of Ancient Varanasi*(2006), *Ancient Varanasi- an Archaeological Perspective* (*Excavation at*

Aktha) (2008), *Jataka-story and Archaeology: A Case Study of Varanasi; Myth and Scientific Studies*(2013), *The Buddhist Landscape of Varanasi* (2015). Vibha Tripathi and Prabhakar Upadhyay's, *Rural Settlement of Ancient Varanasi: Excavations at Anai* (2014). Amongst the most recent publications, mention can be made of *Early History of Varanasi-Recent Excavations at Rajghat* (2016) by Vidula Jayaswal and B.R.Mani. Prof. Vidula Jayaswal has conducted archaeological investigations in Varanasi for more than the last one-half decade (1998-2017), which are quite important from the archaeological point of view in reconstructing the history of the region.

Adopted Methods

The extensive village-to-village field exploration has been carried with the help of a topographical map (by Survey of India), along with the total length of river Varuna (148 km) and its catchment area of 10 km on both banks. The open-source remote sensing data (Landsat imagery) from Bhuvan (NRSC, India) has been processed in Q GIS for making GIS maps which helped us to locate sites and interpreting the ground condition of archaeological mounds and Varuna river basin. The soil and geological sequence of the Varuna river basin have been studied for understanding the landscape of the sites.

For the collection of archaeological material, random sampling has been done in the course of surface exploration. The interpretation of the cultural-period was based on the relative dating of ceramics with the comparative study of early excavated sites in this region. The study on ancient settlement patterns has been done by locating archaeological mounds on the map according to its relative cultural-period on basis of ceramic. The documentation of archaeological sites has been done based on pottery and its relative cultural-period, measurement of the mound, preservation context of the site, and man-land relationship. The quantitative analysis has been done based on cultural sequences of the sites.

Archaeological Field Exploration

Varuna River is an interfluves river of the middle Ganga basin and bounded by the Vindhyan rocks in the southern point where it even forms a peripheral bulge. Some hundred fifty kilometres along the course of a river originating from the Phoolpur (Lat 25.5510° N; Long 82.0884° E) near Allahabad district to Varanasi. It is counted and graded as one of the most important river confluences because it joins Ganga River in the main city i.e. Varanasi. It covers an area of about 3622 km^2 of the Ganga plain. Such as river Varuna also played a key role in connecting the city of Varanasi with a more interior distant land along its banks. Geologically, the Varuna River basin is underlain by Quaternary alluvial sediments of Pleistocene to Recent age (Figure 1). In the study area, however, the unconsolidated sediments from a sequence of clays and sands of various grades. Nodular calcareous concretions are at times intercalated with the sands and form potential aquifers at various depths. Shallow aquifers occur principally in clay size with meander river deposits.

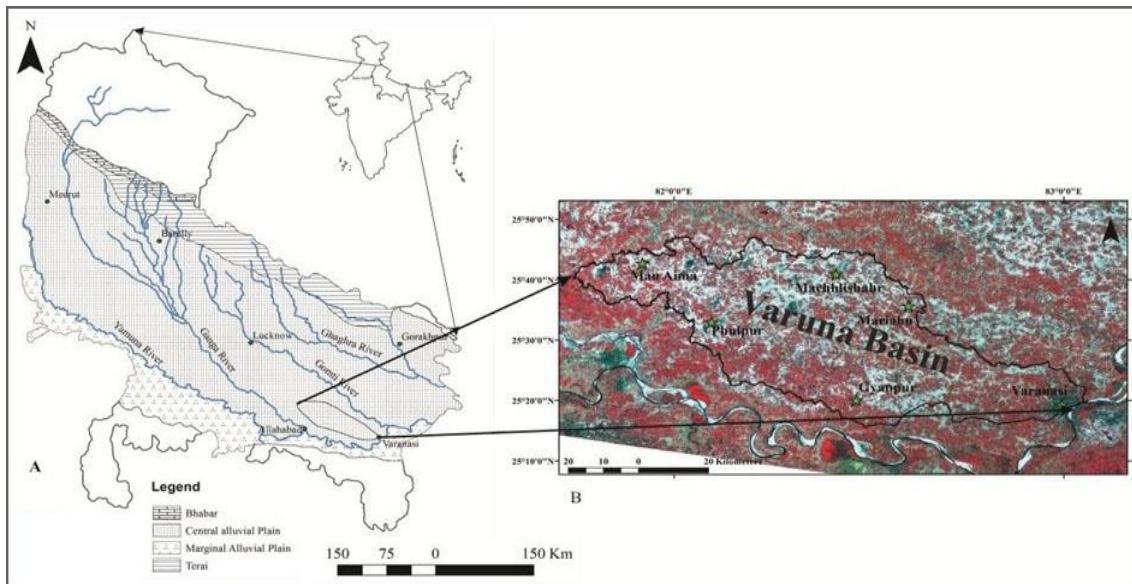


Figure 1: Landsat imagery (LISS-III, 24m, India, ISRO, NRSC, Ortho) representing Varuna River basin (Prakash *et al.* 2016)

Description of Selected Archaeological Sites

The cluster of ancient settlement along with Ganga and Varuna River represents that it was undoubtedly an important zone. The cultural background of these sites based on the ceramic study and their size is given below:

Ayar (Lat. $25^{\circ}45'26''$ N; Long. $82^{\circ}05'12''$ E): Ayar is a village in Harahua block in Varanasi district (Figure 2). It belongs to Varanasi division. It is located 14 km towards North from District Headquarters Varanasi and 3 km from Harahua. This is a multicultural site which has cultural sequence from Pre-NBPW Phase to NBPW and Medieval period. The mound is highly disturbed by agricultural activity and the top of the mound is horizontally cut. On the northeastern side of the mound the open temple of "Ladali Bhawani" is present and on the south-western side of mound modern habitation of Saraiya village is settled. The antiquity from Pre-NBPW Phase includes potsherds of thin black ware, grey ware, and rusticated ware. The antiquity of NBPW culture is mainly some potsherds of NBPW and Red Slip ware and the dominating shapes of this period are a vase, spout, basin, shallow bowl, and jar (Figure 2). The medieval period from this site is marked by a big storage jar of red coarse ware which was ill fired, a biker of thick red slip ware and glass bangle.

Baluwa (Lat. $25^{\circ}42'01''$ N; Long. $83^{\circ}01'38''$ E): This site (Figure 3) is situated near the Shiva temple which is just beside the Nwapur-BelaAzamgarh road which lies in the Baluwa village of Harahua block, Dist. Varanasi. The site is located at the south of Shiva temple, where one of the agricultural field potsherds and some broken bricks of Kushana period had been found. The total area of the site is 984.85m^2 . This site is highly disturbed by the agricultural activity and levelling of the surface. And just beside the temple, under a *Peepal* tree (*Ficus Religiosa*) a broken Buddha sculpture of

Sarnath School of Art is also found whose head is broken (Figure 3). This is made of Red Sandstone.



Figure 2: General view of the Site and its potteries



Figure 3: General view of Baluwa and its pottery with broken Budhha sculpture

Bahutra Locality I (Lat. $25^{\circ}45'77''$ N; Long. $82^{\circ}81'46''$ E): Bahutra mound is located in Pindra tehsil of Varanasi (Figure 4). It is situated 6 km away from sub-district headquarters of Pindra. The site of Bahutra is located 20 m east of Babatpur Jamalpur road. On the eastern side of the mound, a Hanuman Ji temple is there. This is high mound and the southwestern mound is fully destroyed and converted into agricultural land. From this site Kushana, Gupta and Medieval ceramics have been found which include Dabber, Hopscotch, Vase and Shallow Bowl (Figure 4).



Figure 4: General View of the Site and Pottery

Bahutra Locality II (Lat. $25^{\circ}45'46''$ N; Long. $82^{\circ}81'46''$ E): This mound is situated in Pindra tehsil of Varanasi (Figure 5). It is situated 6 km away from sub-district headquarters Pindra. A mound of Bahutra is located 20 m east of the babatpur-Jamalpur road. But this locality is fully destroyed, and it is leveled by farmers. Many potsherds were collected from the site (Figure 5).



Figure 5: General view of destroyed site Bahutra II and Pottery

Badagaon (Lat. $25^{\circ}42'91''$ N; Long. $82^{\circ}81'23''$ E): Badagaon mound is situated in Pindra tehsil in Varanasi district (Figure 6). It is just beside the Badagaon Koiripur road and on the southern part of the mound a Hanuman temple is present. It is a high mound,

eastern slope is vertically cut and western part of the mound is converted into cultivation land.



Figure 6: General View of the site Badagaon and it's pottery

Harsos Locality I (Lat. $25^{\circ}29'76''$ N; Long. $82^{\circ}84'73''$ E): This site is situated 500 m east of Panchkroshi road in Arajiline block of Varanasi district (Figure 7). It is also known as "Pokhara Ka Bhita". It is located 17 km towards west from district headquarter Varanasi, just south-east of Primary school is present. The site is disturbed by soil mining activity. In the southern section, some potsherds are recovered (Figure 7)



Figure 7: General view of fully destroyed site and Pottery

Harsos Locality II (Lat. $25^{\circ}30'43''$ N; Long. $82^{\circ}84'24''$ E): The mound of Harsos II is located beside the Panchkroshi road (Figure 8). The total area of the site is approximately 400 X 400 m and height is 8.46 m from the surrounding surface. The upper part of the mound is destroyed by leveling and soil mining activity. On the Eastern sector of the mound a temple and south-east side of the mound, a bore well is present. From the Kushana-Gupta layer bricks, terracotta figurines and potsherds of vase, basin, and bowl have been found (Figure 8). Moreover, it also yielded medieval

deposits which are represented by thick red ware and the dominating shapes are vase and basin. This site is in danger which is being destroyed by human activities.



Figure 8: General view of Harsos Locality II and it's Pottery

Bhagwanpur (Lat. $25^{\circ}38'52''$ N; Long. $82^{\circ}93'09''$ E): The site of Bhagwanpur is located at Kashi Vidyapeeth block in Varanasi district (Figure 9). It is about 7km south from district headquarters. Bhagwanpur is a multicultural site which is also known as "Kot - ki - Mai" and local people also worship this place as a secret land (*Than/ Devtathan*) (Figure 9). On the western portion of the mound, the modern settlement is Bhagwanpur village is located. The earlier mound was bigger and it is extension was near about $5,207 \text{ m}^2$ (2.2790 acres), now the height of mound is about 7 m. The eastern sector of the mound is highly disturbed by soil mining activity. Potsherds of Gupta period are found from this site.



Figure 9: General view of fully destroyed site at Bhagwanpur and Pottery.

Delhana (Lat. $25^{\circ}24'88''$ N; Long. $82^{\circ}91'39''$ E): The mound is delhana is situated 1 km. south of National Highway–Ashtbhuj Panchkroshi road. This village is related to Kashi Vidhyapith Block of Varanasi District. And southwestern corner of the mound a small temple "Ashth Bhuj" is present. The total area of the mound is approximately 400 X 400 m and its height was about 8m. The Kushana-Gupta and Medieval cultures have been identified from this site (Figure 10). Moreover, iron slag is also found from this site.



Figure 10: General view of fully destroyed site at Delhana and Pottery

Sabahipur (Lat. $25^{\circ}38'13''$ N; Long. $82^{\circ}93'46''$ E): This mound is at Kashi Vidyapeeth block in Varanasi district (Figure 11). Sabahipur mound is situated beside Sabahipur-Virapatti road. On the western side of the mound, Hanuman temple and eastern side of Kali-Mai temples are present. The height of the mound is approximately 7.5 m from the surface, and it covers an area of 2430 m^2 . Here Kushana and Gupta habitations are found on a thick 1.5 m deposit of calcrete layer. This indicates less rainfall before the ancient settlement, but between these two layers, some micro layers are also noted. The Kushan bricks were also exposed in the western slope of the mound.



Figure 11: General view of Sabahipur and Pottery

Sarai Kaji (Lat. $25^{\circ}39'80''$ N; Long. $82^{\circ}89'35''$ E): Sarai kaji is a village in Harahua Block of Varanasi district. It is located 13 km towards north-west from district headquarter. The main location is from Sarai Kaji –Harahua road. Sarai Kaji is a habituated mound which has long cultural sequence from Kushana-Gupta to Medieval period (Figure 12). The Kushana-Gupta period was the prevalent culture of this site, which is demarcated by 1m – 2.8m thick deposit and potsherds of the vase and deep bowl in red slip ware and dabber. The site covers up to 2.75 acres. The northern and southwestern side of the mound is fully destroyed by soil mining activity and in this area cross section is exposed.



Figure 12: General view of Sarai Kaji and Pottery

Sarsawa (Lat. $25^{\circ}39'14''$ N; Long. $82^{\circ}09'47''$ E): Sarsawa mound is situated in the Sarsawa village in Harhua block Varanasi district. The site of Sarsawa is inside a Primary school (Figure 13). It is approximately from 300m east of Shindaura Road and near about 400 m from Babatpur road. This is medium preserved mound where potsherds are found in surface. In the section Kushana Bricks are present in the section cultural period is clearly visible. This site is approx $31,890\text{ m}^2$ (7.8801 acres). On the northern slope of the mound, a small open temple "Dish Baba" is constructed where 3 sculptures of Vishnu, Mahishasur, mahishmardhani, and Votives temple is present. It mainly a pre-Sunga-Kushana and Sunga-Kushana site which is represented by potsherds of NBPW, Black Slipped Ware, Red Slipped Ware and Grey Ware, the dominating shapes are a vase, bowl, disc, basin vase with flaring rim (Figure 13).



Figure 13: General view of Sarsawa and Pottery

Shivpur ($25^{\circ}34' 66''$ N; $83^{\circ}01' 64''$ E): A pond is situated in the center of the settlement area which is destroyed by building and levelling activity (Figure 14). On the north eastern side, we found an inscription of Kashi Khand inscribed on pillar of red sand stone and on the side of road we also found some Brocken sculptures which are not well preserved and painted by black paint. We also found temple of Somsarowar.



Figure 14: General View of Shivpur and pottery, architectural pieces and Inscription



Figure 15: General view of the site and pottery and broken sculptures

War (Lat. 25°40'17" N; Long. 82°90'74" E): War village is located in Pindra Tehsil and block of Harahua, Varanasi. It is situated 10 km away from Sub-district headquarter, Pindra and 16 km away from district headquarter, Varanasi (Figure 15). The mound is situated on the right side of Kajisarai-Birapatti road. Southwestern part of this mound is fully destroyed by agricultural activity, but still one can see pots shreds on the surface of cultivation land. The surviving mound is about 5.5 m. high from the cultivation land and on the top of the mound there is the small open temple of Ram Janki which has some broken sculptures of Vishnu and one panel of Rama with Sita. It is a medieval site where dominating pottery shapes are shallow and deep bowl, basin, vase, spouted bowl and globular jar and stone pestel (Figure 15).

Table 1: List of Archaeological Sites in Varanasi Region

	Site Name	Lat.in Decimal	Long.in Decimal	Pre.NBP	NBP	Sunga	Kushana	Gupta	E.Med.	Land Owner./ Informer
1.	Shivpur	25.34661	83.01645	N	N	N	N	N	Y	Ram Prashad
2.	Khalishpur	25.34102	83.04566	N	N	N	Y	Y	Y	Puttulji / trust
3.	Pahariya(sarangtal)	25.35027	83.00772	N	N	N	N	N	Y	Govn.
4.	Nayapur / Sathawa	25.40399	83.01060	N	N	N	N	Y	Y	Govn.
5.	Baluwa	25.42011	83.01381	N	N	N	N	N	Y	Kedar Singh
6.	Ayar	25.45268	82.95124	Y	Y	Y	Y	Y	Y	Manoj Mishra
7.	Shivrampur(Goraiya)	25.27973	83.05154	N	N	N	N	Y	Y	Iliyash
8.	Ahirauli	25.43945	82.95956	N	N	N	Y	Y	Y	Kripasankar
9.	Gadhawa I	25.40639	82.89398	N	N	N	N	Y	Y	Shivratri Singh
10.	Gadhawa II	25.40646	82.89859	N	N	N	N	Y	Y	Ramesh Singh
11.	War	25.40177	82.90743	N	N	Y	Y	Y	N	Trilok
12.	Chandi Patti	25.39968	82.90635	N	N	N	N	N	Y	Government
13.	Mahadevpur	25.39501	82.90023	N	N	N	N	Y	Y	Jaysankar
14.	Sarai Kaji	25.39801	82.89356	N	N	N	Y	Y	Y	Jayprakash
15.	Hatwa/ Bhatwa	25.40746	82.88988	N	N	N	N	Y	N	Shivratri Singh
16.	Mohanpur	25.40094	82.91338	N	N	N	Y	Y	Y	Ashok
17.	MadhayipurRayasipatti	25.39837	82.92418	N	N	N	N	N	Y	Suraj Pal
18.	Indrawar	25.40064	82.92.698	N	N	Y	Y	Y	Y	Pooja Sharma
19.	Undi	25.40685	82.94042	N	N	N	N	Y	Y	Government
20.	Bhusaula Sonakdeeh	25.40589	82.96718	N	Y	Y	Y	Y	Y	Government
21.	Sarsawa	25.39143	82.94944	Y	Y	Y	N	N	Y	BadriParashad
22.	Sabahipur	25.38136	82.93468	N	N	N	N	N	Y	Nandlal Singh
23.	Bhagwanpur	25.38527	82.93095	N	N	Y	Y	Y	Y	Sudhama
24.	Payagpur I	25.41672	82.92068	N	N	N	N	Y	Y	Maggan Pandey
25.	NanautiBhanauti/	25.41565	82.92555	N	N	N	N	Y	Y	Chandra Shekhar

Payagpur												
26.	Shyamalpur	25.40568	82.87616	N	N	N	N	N	N	N	N	N
27.	Karoma	25.38644	82.87815	Y	Y	Y	Y	Y	Y	Y	Y	Government/ Rajesh Yadav
28.	Shaikhanpur/ Awshanpur	25.38201	82.86721	N	N	N	Y	Y	Y	Y	Y	Hridya Singh
29.	Berwa	25.40064	82.87192	N	N	N	N	N	N	Y	Y	AdhyaAwasthi
30.	Koiripur Khurd	25.40016	82.84864	N	N	N	N	N	Y	Y	Y	Bhola Singh
31.	Chiurapur	25.42568	82.85589	N	N	N	Y	Y	Y	Y	Y	Bipin Singh
32.	Sishawa	25.43953	82.85193	N	N	N	N	N	Y	Y	Y	VivekSonkar
33.	Ramaipur	25.48225	82.82679	N	N	N	Y	Y	Y	Y	Y	King of Pindra
34.	Belwa	25.47046	82.80319	N	N	N	Y	Y	Y	Y	Y	Government
35.	Nindanpur	25.45425	82.80965	N	N	N	N	N	Y	Y	Y	BuddhuPandit
36.	Bahutra I	25.45771	82.81465	N	N	N	Y	Y	Y	Y	Y	Sangam Patel
37.	Bahutra II	25.45.468	82.81.467	N	N	N	Y	Y	Y	Y	Y	Sangam Patel
38.	Pahar /Badagaon	25.42918	82.81237	N	N	N	Y	Y	Y	Y	Y	Jhalak
39.	Khanaw	25.23760	82.94463	N	N	N	N	N	Y	Y	Y	Government
40.	Odhai I	25.24459	82.92882	N	N	N	Y	Y	Y	Y	Y	Ramesh
41.	Odhai II	25.14634	82.55219	N	N	N	Y	Y	Y	Y	Y	Ramesh
42.	Khalilpur I	25.23.664	82.92013	N	N	N	Y	Y	Y	Y	Y	Government
43.	Khalilpur II	25.23667	82.91455	N	N	N	Y	Y	Y	Y	Y	Rohit
44.	Khusiyari	25.23781	82.90592	N	N	N	Y	Y	Y	Y	Y	BhaiyyaLal
45.	Nidura	25.25281	82.88628	N	N	N	Y	Y	Y	Y	Y	-
46.	Harsos I	25.29763	82.84730	N	N	N	N	N	Y	Y	Y	Ram Balak Singh
47.	Harsos II	25.30432	82.84240	N	N	N	N	N	Y	Y	Y	EliyashAnsani
48.	Delhana	25.24881	82.91394	N	N	N	Y	Y	Y	Y	Y	-
49.	Misirpur	25.26643	82.91377	N	N	N	Y	Y	Y	Y	Y	Government
50.	Budapur	25.24662	82.86294	N	N	N	N	N	Y	Y	Y	Dodhnath Patel
51.	Badhaini	25.23026	82.87424	N	N	N	N	N	Y	Y	Y	Ashok Singh
52.	Babhniyaw	25.22138	82.86019	N	Y	Y	Y	Y	Y	Y	Y	Ratnesh Pradhan
53.	Mahavan	25.22783	82.85733	N	Y	Y	Y	Y	Y	Y	Y	Ramesh
54.	Deepapur	25.24108	82.84771	N	N	N	N	N	Y	Y	Y	Pintuji
55.	Dhadhorpur	25.22363	82.83871	N	N	Y	Y	Y	Y	Y	Y	-
56.	Teenkinwa	25.22044	82.83450	N	N	N	Y	Y	Y	Y	Y	ShyamLal
57.	Panihara	25.19745	82.85810	N	N	N	N	N	Y	Y	Y	MahendraPratap
58.	Narshada	25.20265	82.83828	N	N	N	N	N	Y	Y	Y	Government
59.	Gosayipur Math	25.44237	83.00660	N	N	N	N	N	N	Y	Y	Kripasankargiri
60.	Jakhini	25.18933	82.82433	N	Y	Y	Y	Y	Y	Y	Y	Ravishanakar Maurya
61.	Bhadawu	25.32279	83.02780	N	Y	Y	Y	Y	Y	Y	Y	Ramesh Yadav
62.	Nahpura	25.42112	83.01712	N	N	N	Y	Y	Y	Y	Y	Ajay Kumar

N= Absent, Y= Present

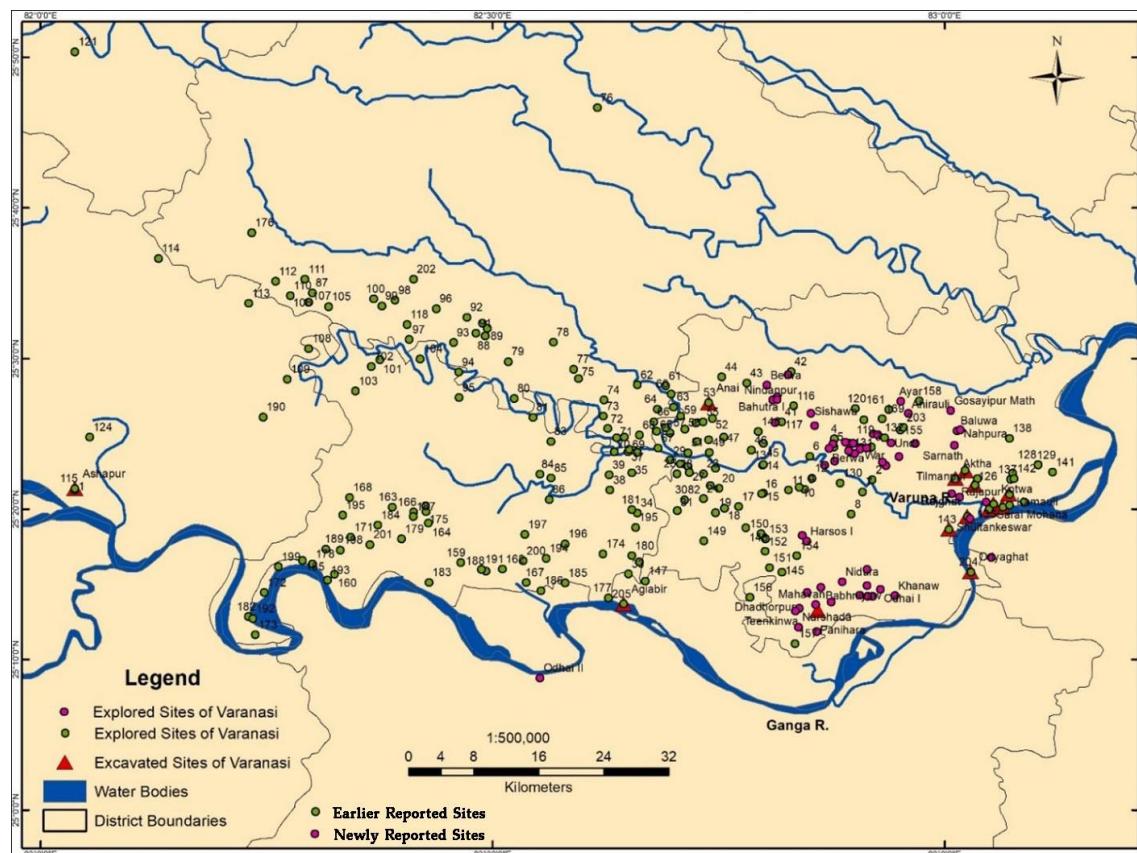


Figure 16: List of Archaeological Sites in Varanasi Region

Discussion

The present research suggests that early small isolated hamlet settlements indigenously developed into village-based settlements, which lead to rural cultures. Most of the urban or nucleated settlements like Rajghat and Ramnagar are found on the bank of major rivers like Ganga and Varuna and the small settlement are identified and on the bank of their tributaries. This rural settlement providing the local food facilities for the major settlement sites. While near the ponds, well and different sources of water channels very few number sites came into existence. During observation and exploration, all discovered artifacts do not only give information about contemporary social, political, economic, and religious status but also informs about science and technology and arts temperaments.

The present archaeological and literary evidence has confirmed that the ancient Varanasi was a manufacturing point of the deluxe NBPW pottery, variety of beads, and sculptures. Ancient Rajgaht, Aktha, and Ramnagar were the main consumer center or urban Center which was supported by a lot of satellite sites situated near Varuna River. It was not only a manufacturing center of luxury items but also a trading point (Jayaswal, 1998). There is also a possibility that Varuna might be used for water transportation and trade activities between small villages based satellite sites and urban sites situated near the Ganga River. The exploration has found a long cultural

continuity, disappearance, and rehabilitation of NBPW and Gupta sites along with the Varuna River. The spatial point pattern analysis of the location, distance, and size of these archaeological sites, shows that the early inhabitants of the Varanasi region had preferred to live near another site which constructed an interdependent cluster habitation. It was also noted that, with the time, number, and density of human habitation had also increased. The average distance between two habitations during the Kushana period was 5-8 Km whereas during the early medieval it decreased to less than 2 Kms. During the early medieval period, the numbers of habitation sites increased but the quality of cultural materials decrease.

Varanasi had all the geographical bounties of the abundance of water provided by mighty rivers, streams, lakes, and Nala. This was one of the basic prerequisites for any settlement's growth, particularly in ancient times. It was noted in the whole area numerous small and supporting settlements of Varanasi grew along with these small water sources. The Varanasi Region was blessed with a vast and rich agricultural and hinterland. These rich geographical bounties and religious importance were effectively converted into economic terms in favor of this area.

Conclusion

Based on archaeological records Pre-NBPW culture settlement were the earliest (3 %), after NBPW (8%), Sunga (11%), Kushana (27 %), Gupta (22%), and Early Medieval (29%). We have continuous records of human settlement up to the Medieval Period. Most of the sites (Table1, Figure 16) are situated on the bank of Ganga and Varuna River. It suggests that the district was occupied in the NBPW period for a longer period. But as observed in other districts, the number and size of Kushana settlement were continued to increase. However, Gupta Period settlement records are unsatisfactory and there is much decline in the number of sites in comparison to the Kushana period. There is an increase of settlement in the early medieval period but it is only the half of Kushana Period settlements. A comparative study of pot-sherds and antiquities recovered from these sites shows that they may be ascribable from the Chalcolithic to the early medieval period. Sites of Mahavan, Ayar, Sarshawa, Harsos, and Bahutra, Zakhini are very rich in the sense of archaeological potential. Horizontal excavations of both sites may be able to throw light on various aspects and give a new dimension to the archaeology of the mid-Ganga plain.

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