Neolithic Early Village Farming Settlement in Saryupar Region

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Saryupar plain lies between latitudes 26° 5’ and 28° 30’ North and longitudes 80° 57’ and 84° 29’ East, basically it is situated on the foothills of the Himalayan ranges in the middle of the Ganga basin. Its Western boundary is delimited from Ghaghra (Saryu) River and Eastern boundary is demarcated by Gandak River and from east to east it has maximum length of 260 km while width of 160 km from north to south. It covers the administrative districts of Bahraich, Shravasti, Balrampur, Gonda, Basti, Sidhartha Nagar, Maharajganj, Kushinagar, Gorakhpur & Deoria. It touches International boundary of Nepal in the north, Bihar in the east. The western and southern sword shape rim is delimited by the river Saryut (Ghaghra) a major tributary of the Ganga river. (Figure 1 & 2) The region is made of alluvium deposits of river Ghaghra, Rapti and their tributaries. The area is watered by Ghaghra, Manwar, Kuwana, Rapti, Ami and chhoti Gandak.

Figure: 1
The Saryupar plain part takes of similar geographical features as the vast Ganga plains. The region has been classified into three broad divisions viz., (i) The Tarai (ii) the Bhangar or the upland and (iii) the Kachhar or the flood-prone low land. Terai region is extended in narrow belt in width of 25 to 30 km parallel to International boundary of Nepal in length of 400 km. This is region of unmanaged drainage system and often affected from flood. The changes in river course in this region are very common. Khadar region if flood plain, which is extended parallel to Ghaghra River in width of 15 to 25 km besides this is also lies parallel to Rapti river from Basti in west to Barhaj in east. This is region of severe flood which determines the land use pattern, population distribution and settlement pattern as well as socio-economic development. The Bhangar region lies in major portion of the Saryupar plain between Terai and Khadar. The slope gradient in this region is from north-west to south-east. This is region of high density of population and settlements characterized by ancient alluvial soil. Moreover this is region of highly fertile soil and intensive agricultural attractive for human settlement.

![Saryupar Plain Location & Extent](Figure: 2)

**Drainage**

The area is drained by Ghaghra, Rapti, Rohini, Terhi, Suwan, Manwar Bhurhi Rapti, Aami, Kuwano, Gurra, Tons, Kunhra, Ghonghi, Banganga, Saryu, Gandak, Little Gandak, Banarsi, Bakela etc. (Figure: 3)

**Ghaghra**

Ghaghra also known as Saryu originates in the southern slopes of the main Himalayan ranges near the border with Tibet. The Ghaghra is called Karnali or Manchu in upper reaches and after junction with Sarda the river flows in south-east direction. The river meanders practically in a width of 6 km to 10 km. through its entire course specially in Saryupar plain. This causes flooding due to spilling of bank as well as serious erosion of outfall conditions causing drainage congestion problems.

**Rapti**

Rapti rises from Dunwa range at an elevation of 915 m in Nepal. Rapti has a meandering course and through out its journey it has a habit of changing course and displacing people and villages. There are a large number of lakes, ponds and other water bodies left behind to mark its changing course.
Gandak
Gandak finds its source in the over 7000m.high Dhaulagiri peaks of the Himalaya. Many small and large streams join the Gandak in its entire journey. The Districts of Maharajganj, Kushinagar and Deoria are affected by floods during rainy season.

Little Gandak
Little Gandak is left bank tributary of river Ghaghra has its origin from near Nichlaul town at Indo-Nepal border. This river creates serious problems in the districts Kushinagar and Deoria.

Rohin
Rohin river is the eastern most tributary of Rapti river emerges from Nepal at elevation of 1200 m. The total length of this river is approximately 119 km. The river meets river Rapti near Domingarh in district Gorakhpur.

Gurra
River Gurra originates from river Rapti and joins again Rapti after 48 km. in Deoria district. Turra Nala is 42 km in length meets Gurra. Among other rivers in the region is Aami starting in Pargana Rasulpur meets Rapti near Sohgaura in Gorakhpur.

Lakes & Tals
The Neolithic settlements have been located on the bank of rivers or lakes & nalas Kakarahwa, Anarkali, Majhghawa, Koharagaddi, Chura Tal, Pathri Tal, Kondar Tal, Parsia Tal, Parbati Tal, Bakhira Tal, Komar Tal, Chilua Tal, Likhia Tal, Chando Tal, Ramgarh Tal, Narhi Tal, Nador Tal etc. (Figure 4) generally above the food plain. In the selection of sites for settlements the main consideration was the availability of land for cultivation, water resource and animals and wild plants in surrounding areas.
region comprises about 17.2% of the area. Bangar is interspersed by Kankar formation which is hard in nature and the Khadar is very soft and fragile and is annually renewed. Flooding in Saryupar plain, causes a lot of problems particularly in the districts of Bahraich, Gonda, Basti, Siddhartha nagar, Gorakhpur, Maharajganj, Deoria and Kushinagar by the rivers like Ghaghra, Rapti, Gandak and their tributaries. The flooding caused in general damage to crops, property and loss to human and animal lives. After recession of flood, water born diseases like Malaria, Cholera, Encephalities spread in the region and causes further death and misery.

Climate
The climate of the region is sub humid tropical where monsoon is predominant. The climate is characterized with surplus/deficiency, uncertainty and variability of rainfall, extreme temperatures showing diurnal and seasonal variations and low humidity during the drier months.

Rainfall
The average rainfall of the region is 120 cm. About 85% of the total rainfall occurred in the rainy season. Retreating monsoon also causes a few amount of rainfall during the months of October and November. March, April and May are the driest months receiving only a negligible amount of rainfall mainly by local storms followed by lightning and hail.

The rainfall decreases from north-east to south-west. The north-eastern part of the region receives average annual rainfall more than 140 cms. The central part of the region receives 120 to 140 cms rainfall while the southern part of the region receives rainfall between 100 to 120 cms.
Soil which is a complex of minerals and organic substances is one of the main exhaustable and irreplaceable resource of the earth(Burton, I and W.K. Robert, 1965). There are six major types of soil in the region i.e. (i) Sandy loam soil (ii) Loam soil (iii) Silt loam soil (iv) Clayey soil (v) Bhat soil and (vi) Alkaline soil.

In the early Vedic literature there is only casual reference to this region, but by the late Vedic period it had become an important administrative unit due to the formation of the Kosala and Videha kingdoms. The region is first mentioned in the Satapatha Brahmana, a text that relates to the spread of the Aryan culture. In this text we read about Videgha Mathava, the king of Videhas. Accompanied by the priest Gotama Ragunaga, he carried the sacrificial fire from the bank of the Saraswati river eastwards across Kosala and the Sadaniiya and established a settlement known as Videha after the tribal name of Mathava. During the lifetime of the Buddha several small kingdoms flourished in this region, e.g. the Mallas of Pawa and Kusinara and the Sakyas. In the Gahadavala inscriptions this region has been mentioned as Saruwar.

The archaeological study began for the first time by A.C.L. Carleley who explored some area in the Saryupar region under the guidance of Alexander Cunningham during 1874-76(Carleley 1972:87). In 1890, A.F. Fuhrer (1972:44) explored this area. In February 1897 Vincent A. Smith suspected that Pipraha might represent the ancient stupa. In the subsequent year W.C. Peppe excavated and found the famous Pipraha vase containing Buddha’s relics, beads, crystals, gold ornaments, cut stars etc.

The excavations and explorations conducted during the last three decades by Banaras Hindu University, Deen Dayal Upadhyay University Gorakhpur, University of Lucknow, U.P. State Archaeology Department and Patna circle of the Archaeological Survey of India, have furnished a complete cultural sequence of the region—Epipalaeolithic, Mesolithic, Neolithic, Chalcolithic, Early Iron Age, NBPW, Sunga-Kushana, Gupta and Early Mediival Periods. Recent excavations have thrown new light on the early farming culture of the area. Excavations conducted at Sohgaura, Senuwar, Narhan, Imlidih Khurd, Dhuriapur, Lahuradeva, Sravasti, etc. have thrown welcome light on the corpus of cereals having been cultivated by the Neolithic people in the mid Saryu plain.

The following sites have been excavated in this area:

**Sohgaura:**
The ancient settlement of Sohgaura (Lat. 26° 30’ 30” N ; Long. 83° 15’ 25” E.) is situated at the confluence of the Rapti and Ami rivers in a district Gorakhpur. The site was excavated by Professor G.C. Pandey in 1961-62 and re-excavated by Dr. S.N. Chaturvedi of Gorakhpur University in 1974-75. The excavation yielded five cultural periods as follows—

- **Period I:** Handmade pottery with matt impressed
- **Period II:** Plain and Painted Black Slipped ware, Plain and Painted Black and Red ware, Grey and Red ware.
- **Period III:** NBPW
- **Period IV:** Kushan
- **Period V:** Mediival times

**Imlidih Khurd:**
The ancient settlement of Imlidih (Lat. 26° 30’ 30” ; Long. 83° 12’ 5”) is an inconspicuous, featureless mound located on the left bank of Kuwano, a tributary of Ghaghara river. It was excavated during 1992, 1993 and 1995 by us (Singh 1991-92; 1992-1993; 1993-94). The deposit of the site is divided into 3 periods.

**Period I:** It is Pre-Narhan and dated to c.1300 B.C. The ceramics include crude Red Ware, some with cord impression. The bones of sheep/goat, cattle, pig, deer, wolf, fresh water, turtle, fish and fresh water mollusca have been found. This indicates that people were engaged in animal domestication, as well as in hunting and fishing. Circular pits with a diameter of 19.5 m. are reported within the huts. It indicates that these soils were used to store surplus grains for future consumption (Singh 1992-93:30-31). The cereals include rice, barley, wheat, jowar, bajra, lentil, green gram, field pea, til and mustard oil seeds (Singh 1993-94:47). It indicates that farming was also in practice.

**Period II:** It is Narhan culture and is placed between c.1300-800 B.C.

Main potteries are white painted Black and Red Ware, Coarse Black and Red Ware etc. The bones of cattle, goat, sheep, bear, deer, chita and barhasingha have been recovered. They indicate that hunting was still in practice alongside animal domestication. Shell of mollusca are found (Singh 1992-93:31-34)

**Period III:** It is comparable to period II of Narhan dated to 800-400 B.C. The ceramic industries include Black and Red Ware, Red Ware, Grey Ware and NBPW.

**Dhuriapur:**
The ancient settlement of Dhuriapur is situated on the left bank of the Kuwana River about 46 km. south of Gorakhpur. The settlement presently spreads over a length of about 1.5 km. along the river bank and is occupied by three small villages, viz., Jagdishpur, Basudeopur and Dhuriapur.

The cultural deposit is divided into 5 periods. Period I-II are relevant here and remaining periods belong to later times.

- **Period I (c.1300-600 B.C.):** This cultural deposit belongs to the Narhan culture (Singh 1992-92:58).
- **Period II (c.600-200 B.C.):** It is NBPW period (Singh 1991-92:58).

**Lahuradeva:**
It is located near a lake. It is connected with Katnahia river, a tributary of Kuwano river which ultimately meets the Ghaghra river. The cultural remains are divisible into five periods.

**Period I:** Early Farming phase
**Period II:** Developed Farming phase
**Period III:** Advanced Farming/Early Iron Age
**Period IV:** NBPW phase
**Period V:** Early Historic (Early centuries BC/AD).

The rice cultivation and cord impressed pottery are interlinked to each other, having greater antiquity in the Neolithic in a wide area. The cord impressed ware associated with the Neolithic culture (rice cultivation) has been found in south eastern coastal China, in the Yangtze valley, southern C'ina Japan, Indo-China, Gangetic Plain, Vindhayas, eastern and north-eastern India and in the Himalayas. Recent excavations of the early farming culture sites in the Gangetic Plain have revealed interesting evidence of a center of early origin of agriculture in India. The excavations at Lahuradewa in Sant Kabir Nagar district and at Jhusi in Allahabad district have revealed a Neolithic Culture characterized by mostly handmade ceramic industry, bone tools, beads of semi-precious stone, micro disc-beads of steatite, circular hut floors, cultivated and wild cereals and domesticated and wild animal bones.

The Neolithic settlements have been located on the bank of rivers or nalas, generally above the flood plain. In the selection of sites for settlements the main consideration was the availability of land for cultivation, water resource and animals and wild plants in surrounding areas. They cultivated plants and domesticated animals. As the evidence shows the Neolithic people were not dependent on agriculture and domestication alone for their subsistence. They exploited wild plants available in forests, rich in woodland and grassland vegetations. The rivers and nalas not only provided suitable land for agriculture, they also provided food in the form of aquatic animals like fish, tortoise and snails etc.

The Neolithic culture of the Saryupar Plain is marked by a rich and varied ceramic industry. The available evidence indicates that in the early stage of the culture, as indicated at Imliidihkhurd and Lahuradewa people were using hand-made pottery subsequently the slow wheel appears to have been used for the purpose. The ceramic assemblage includes cord impressed ware, ordinary red ware, lustred red ware, burnished ware (red, black and grey), rusticated ware and crude black and red ware and the clay used for manufacturing the pots is not well levigated. It contains grits, husks and chaff as degraissant. Pots are generally ill fired and have blackish grey core. Pottery types including bowls with varying profile, vases, vessels, basins, miniature jars, handis, etc. suggest that these were used for storing, cooking and also as kitchen wares. A large number of vases with rustication and soot mark on outer surface indicate that these were for cooking, possibly for boiling rice. Bowls, basins and vases also have sometimes spouts, suggesting consumption of liquid or semi-liquid food. The Neolithic pottery is represented by four wares called cord-impressed, rusticated, burnished red and burnished black, all hand-made and ill-fired.

The rice cultivation and cord impressed pottery are interlinked to each other, having greater antiquity in the Neolithic in a wide area. The cord impressed ware associated with the Neolithic culture (rice cultivation) has been found in the south eastern coastal China, in the Yangtze valley, southern C'ina, Japan, Indo-China, Gangetic plain, Vindhayas, eastern and north-eastern India and in the Himalayas.


### Table 1: Neolithic Sites in the Middle Ganga Plain

<table>
<thead>
<tr>
<th>Name of the Site</th>
<th>Location</th>
<th>Excavated by</th>
<th>Thickness</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jhusi (Lat 25° 26' 10&quot; N Long 81° 54' 30&quot; E)</td>
<td>Allahabad, U.P., on the confluence of the Ganga and Yamuna</td>
<td>University of Allahabad</td>
<td>1.5 m</td>
<td>Misra et al. 2002-03</td>
</tr>
<tr>
<td>Hetapatti (Lat 25° 29' 0&quot; N Long 81° 55' 31&quot; E)</td>
<td>Allahabad, U.P., on the left bank of the Ganga.</td>
<td>University of Allahabad</td>
<td>60 cm</td>
<td>Pal and Gupta 2005</td>
</tr>
<tr>
<td>Bhumadhi (Lat 25° 19' 10&quot; N Long 84° 5' 11&quot; E)</td>
<td>Ballia, U.P., on the right bank of Bahera nala, a tributary of Ghaghara.</td>
<td>Banaras Hindu University</td>
<td>About 50 cm</td>
<td>Singh and Singh 1997-98</td>
</tr>
</tbody>
</table>
A form of suitable vegetation, animals and aquatic creatures was the Jhusi. Two dates obtained from Chirand read 1760+150 B.C. and 1680+135 B.C. These dates push the beginning reliable chronology of the culture can be worked out. Four excavated Neolithic sites of the mid Ganga Plain have furnished C-14 dates also, on the basis of which a reliable chronology of the culture can be worked out. The sites in question are Chirand, Senuwar, Lahuradewa and Jhusi. Two dates obtained from Chirand read 1760+150 B.C. and 1680+135 B.C. These dates push the beginning

### Table II: Showing the Main Ceramics, Shapes and Painting Traditions of Neolithic Stage in middle Ganga Plain

<table>
<thead>
<tr>
<th>Sites</th>
<th>Cultural Periods</th>
<th>Ceramics</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sohagura</td>
<td>Pd.I</td>
<td>Corded ware, Rust-cated ware and small quantity of Red ware</td>
<td>Chaturvedi 1985 : 103-04</td>
</tr>
<tr>
<td>Chatand</td>
<td>Pd.1</td>
<td>Red ware, Grey ware (in less quantity), Black, Black &amp; Red ware (largely hand-made and rarely made by turn-table method)</td>
<td>Verma 1970-71:21</td>
</tr>
<tr>
<td>Lahuradewa</td>
<td>Pd.IA</td>
<td>Mainly course variety of Red ware, Black and Red ware which includes hand and wheel turned (slow wheel) varieties</td>
<td>Tewari et al. 2002:39-43</td>
</tr>
<tr>
<td>Pd.1B</td>
<td>Course variety of Red ware, Black and Red ware with few sherds of Grey ware and Black ware.</td>
<td>Tewari et al. 2002:39-43</td>
<td></td>
</tr>
<tr>
<td>Senuwar</td>
<td>Pd.IA</td>
<td>Red ware and Burnished Red ware, Burnished Grey ware,Cord-impressed and Rusticated ware, crude Black and Red ware. All these have been distinguished mainly on the basis of surface treatment and other techno-logical details. All these are mainly wheel made, although hand-made are also found.</td>
<td>Singh et al. 2014:26</td>
</tr>
<tr>
<td>Pd.IB</td>
<td>All the preceding (IA) ceramics and common shapes are continue with improvement of surface treatment.</td>
<td>Singh 1988-89:6-17</td>
<td></td>
</tr>
<tr>
<td>Jhusi</td>
<td>Pd.I</td>
<td>Cord impressed ware, Rusticated ware, Burnished Red ware, Burnished black ware and crude Black and Red ware. The first three may considered as sub groups of Red ware. Pots are thick to medium in fabric and ill fired. Core of the pots are blackish, Grayish and occasionally reddish. Clay used for making pots is not well levigated and uneven surface of pots ware indicating that these pots are handmade.</td>
<td>Misra et al. 2009:23</td>
</tr>
</tbody>
</table>

### Settlement Pattern:
All the excavated sites are located on the banks of rivers, generally on the confluence of two rivers near meander above the flood plain or on horse-shoe lakes (as in the case of Lahuradewa). Easy availability of water, cultivable land and also easy availability of food in the form of suitable vegetation, animals and aquatic creatures was the prime consideration for selecting a site for settlement.

### Subsistence:
The Neolithic people of the Saryupar region as those of the Vindhayas were farming and pastoral communities is attested by the cultivated variety of rice, barley, wheat, fieldpea, lentil, green gram, etc., recovered from the excavated sites. However, the botanical evidence obtained from Senuwar and Jhusi in mid Ganga valley read with its counterpart of Tokwa in he Vindhayas suggests that in the early phase only rice and some primitive millets were being cultivated.

### Chronology:
Four excavated Neolithic sites of the mid Ganga Plain have furnished C-14 dates also, on the basis of which a reliable chronology of the culture can be worked out. The sites in question are Chirand, Senuwar, Lahuradewa and Jhusi. Two dates obtained from Chirand read 1760+150 B.C. and 1680+135 B.C. These dates push the beginning
of the Neolithic culture at the site around 2000 BCE. From the overlap phase (Neolithic and Chalcolithic) of Senuwar four dates reading 1770+120 B.C.,1660+120B.C.,1500+110B.C. and 1400+110B.C. have been obtained.

The earliest date obtained from the site would put the beginning of the Neolithic culture of the site in the 18th millennium B.C. From Lahuradewa (Tewari et al. 2003; 55-56) a multiculture site in Sant Kabir Nagar, two C14 dates read 5320±90 B.P.(Cal B.C.4220,4196 and 4161) and 6290+160 B.P.(Cal B.C.5298). An AMS C14 date for carbonized domesticated rice would push the antiquity of the Neolithic culture at the site to the 7th millennium B.C. (Tewari et al. 2005:40). From the Neolithic horizon of Jhusi three C14 dates have been obtained. These dates when calibrated, read 7477 B.C.(BS-2526), 5837 BC(BS-254) and 6196 BC(BS-2525). The earliest date obtained from the site would put the beginning of the Neolithic culture of the site in 8th millennium BCE. In the Ganga Plain Neolithic culture and Mesolithic Neolithic variety of life lasted for a long time starting from 8th-7th millennium BCE to 3rd-2nd millennium BCE.

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