EARLY CENTRES OF ORIGIN OF AGRICULTURE IN THE MIDDLE GANGA PLAIN

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The Ganga plain has played a major role in the origin and development of the history and Archaeology of India. It is divisible into three main units: (1) Upper Ganga plain (ii) Middle Ganga Plain and (iii) Lower Ganga Plain. The Ganga and its tributaries, the major drainage systems provide a vast fertile alluvium track and serve as a strong base for early human occupations in Middle Ganga plain (Singh : 1971-183-193). The Middle Ganga plain (24° 30’ N-27° 50’ N. and 81° 47’ E-87° 50’ E) measuring about 144, 409 sq.km. is bounded by the Himalayan tarai in the north, Vindhyan plateau in the south, Ganga-Yamuna confluence in the west and Bihar-Bengal border in the east. On the basis of the river system, the middle Ganga plain is sub-divided into the Ganga plain North and Ganga Plain south. The Ganga plain north is further sub-divisible into (1) the Ganga-Ghaghara doab (ii) the Ghaghara-Gandak interfluve, (iii) Gandak-Kosi interfluve and (iv) Kasi-Mahananda interfluve and the latter, i.e. the Ganga Plain south into (1) West of Karmamsa (ii) Karmanasa east interfluve (iii) tower son valley and finally (iv) the Magadha-Anga plain (sing 1971 : 190-92).

The Middle Ganga plain was a meeting point of different cultures of north, south, east and west. The divine gospels contained in some of the Upanisads, were conceived and preached in this region. It is the land associated with the story of Ramayana. The deductive portions of the Mahabharata are supposed to have got their final shape in this region. It was also a nerve centre of the political, economic and religious upheavals of 6th Century B.C. and witnessed the second urbanization of the subcontinent.
The middle Ganga plain is now credited with one of the early centres of origin of agriculture and domestication, which paved the way for development of the Neolithic and Chalcolithic Cultures and Civilization in the early Iron age in the area. The evidence of such transition in India is found in the Mesolithic Cultures, which suggests that the agriculture and domestication was a slow developmental process, extending across several millennia but it had a revolutionary effect on human history. The evidence of wild rice, millet, jujube etc. from excavations of the Mesolithic sites and scenes of plants in the rock paintings in the hilly regions indicate that the plant food was included in the Mesolithic diet. A good number of grinding stones from many of the sites also suggest that the wild grains were pasted for consumption (Misra 2002, 2007-2008). Their artifact inventory comprises microliths and debitage, plenty of sand stone fragments and other raw materials brought from the Vindhyan region. Fragments of querns, mullers, hammerstones, etc. fashioned on sand stone, quartzite and basalt have been reported. This indicate that the Mesolithic people used to collect wild seeds, edible roots, etc. for supplementing their dietary items. On this context the occurrence of wild rice from the late Mesolithic phase at Chopardi Mando assumes considerable importance.

The changing climatic conditions during early and middle phase of Holocene in the middle Ganga plain played a significant role in the evolution of early farming cultures. The excavations and explorations conducted during the last five decades by university of Allahabad, Banaras Hindu University, Deen Dayal Upadhyay University Gorakhpur, University of Patna, U.P. state Archaeology Department and Patna circle of the 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 Medieval periods.

Neolithic Settlement:

The first stage of food production in human history is termed Neolithic world wide. The pastoral and farming practices of this early stage are characterized by incipient traits. The location of the Neolithic settlements near the flood plain of the rivers indicate that the Neolithic people were aware of the role of river for cultivation. These are sedentary settlements, generally situated in shallow basin-shaped bluff surrounded by natural ridges.

Subsistence:

The subsistence of the Neolithic people was based on the exploration of plants and animals, by domestication as well as by hunting and gathering. The evidence of cultivation of plants has been found in the form of rice husk used as degraissant in the pottery as well as charred grains of rice of domesticated variety. The cultivated variety of rice has been identified as Oryza Sativa and wild variety are oryza nivara and Oryza rufipogona (Vishnu-Mitra and Sharma, 2004). The available evidence, thus, indicates that besides agriculture and domestication the Neolithic people of the Mid Ganga plain also practiced hunting, catching and fishing.

Material Culture:

The ceramic industry of the Neolithic Gangetic plain is rich and varied. The available evidence indicates that in the early stage of the culture as indicated at Chirand, Lahuradeva, Jhusi and Hetapatti people were using hand made pottery but subsequently the slow wheel appears to have been used for the purpose. Occurrence of painted shards has been reported from Imlidih Khurd, Lahuradeva, Chirand and Senuwar. The cord-impressed were has been found in Neolithic context at Chirand, Sohagaura, Lahuradewa, Jhusi and Hetapatti in the Middle Gangetic plain. The salient feature of each of the five excavation are enumerated below.

Chirand:

Chirand is situated on the confluence of Ganga and Ghaghara rivers, about 11 km east of Chapra in district Saran. The excavation at the this site was conducted by the Patna University and the Deptt. of Archaeology and Museums, Government of Bihar. This excavation was conducted by B.P. Sinha and his team intermittently for about ten seasons.

Waina:

The ancient settlement of Waina (Lat. 25° 45’ 5” N; Long. 84° 0’ 5” E) is situated Ballia, U.P. on the left bank of old bed of Chhoti Sarju, a tributary of the Ganga.

Khairadih:

Located on the right bank of river Ghaghara, a tributary of the Ganga in district Ballia, Khairadih contains the relics of a township of the Kushana period. The affluent nature the settlement is fully born out by the Kusana period cultural remains in the settlement pattern, especially in its town planning. The horizontal excavation of 1980-86 revealed well laid town planning with roads running in the cardinal direction joined by lanes at right angles. These are flanked by houses, some of them having underground structures, possibly for storage. The roads are brick-paved with traces of rut-marks at places. The use of full sized bricks the broad square pillared structure underline the significance of a particular building that housed coins (Singh, 1990-91 : 78-86)

Bhunadih: The ancient settlement at Bhunadih (Lat. 25° 59’ 10”, Long. 84° 5’ 10”) is located 2 Km. east of Janwan on the right bank of Bahara nala, about 28 km. north of Ballia town on the Ballia-Sikanderpur road. The mound extends in an area of about 4 acres and the extant height gradually rises to well over a metre.
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.

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).

Dhuriapar:
The ancient settlement of Dhuriapar (Lat. 26° 15’ 25” N. Long. 83° 14’ 31” E) is situated on the left bank of the Kuwano river about 46 Kms. south of Gorakhpur.

Lahuradewa:
The ancient settlement of Lahuradewa (Lat. 26° 46’ N; Long. 82° 57’ E.) is located in Kuwano-Ami Doab in district Sant Kabir Nagar. It is about 5 Km. south to the Bhujaini-crossing situated on the Basti-Gorakhpur Highway No. 28.

Jhusi:
The ancient settlement of Jhusi (Lat. 25° 26’ 10’” N.; Long 81° 54’ 30” E) is situated at the confluence of the Ganga and Yamuna in Allahabad district have revealed a long and continuous cultural sequence ranging from Mesolithic to early medieval periods through Chalcolithic, pre N.B. PW with iron and N.B.P.W. periods.

Hetapatti:
The ancient settlement of Hetapatti (Lat. 25° 29’ 0” N.; Long 81° 55’ 31” E.) is situated Allahabad, U.P. on the left bank of the Ganga.


<table>
<thead>
<tr>
<th>Table: Neolithic Sites in the Middle Ganga Plain</th>
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<tbody>
<tr>
<td>Name of the Site</td>
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<td>------------------</td>
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<tr>
<td>Jhusi (Lat. 25° 26’ 10’” N; Long 81° 54’ 30” E)</td>
</tr>
<tr>
<td>Hetapatti (Lat. 25° 29’ 0” N; Long 81° 55’ 31” E)</td>
</tr>
<tr>
<td>Bhunadih (Lat. 25° 19’ 10’” N; Long 84° 5’ 11” E)</td>
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<tr>
<td>Wainia (Lat. 25° 45’ 5” N; Long 84° 5’ E)</td>
</tr>
<tr>
<td>Lahuradewa (Lat. 26° 46’ N; Long 82° 57’ E)</td>
</tr>
<tr>
<td>Sohgaura (Lat. 26° 30’ 30” N; Long 83° 15’ 25” E)</td>
</tr>
<tr>
<td>Imlidih (Lat. 26° 30’ 30” N; Long 83° 12’ 5” E)</td>
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<tr>
<td>Charandi (Lat. 25° 45’ 5” N; Long 84° 50’ E)</td>
</tr>
<tr>
<td>Chechan-Kutupur (Lat. 25° 30’ 10” N; Long 85° 30’ 45” E)</td>
</tr>
<tr>
<td>Taradih (Lat. 24° 42’ N Long )</td>
</tr>
</tbody>
</table>
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 comparative study of the culture with that of the Vindhyas indicates that its origin lies in the Vindhyan Neolithic. The early chronology indicates that it was one of the early centres of origin of agriculture.

The problem of the antiquity of the Neolithic culture of the region is still not finally settled but now we have some relevant $^{14}$C dates from the excavated Neolithic sites of the Vindhyas and Ganga Plain. Considering three of C-14 dates reading 4530 ±185 BC (PRL 101), Koldiwha as dependable, the culture was dated to the 7th – 6th millennium BC (Sharma et al. 1980). But being the only site of such antiquity doubts were raised by several scholars. The $^{14}$C date belonging to the transitional phase of the Neolithic to Chalcolithic at Koldiwha is 1440 ± 120 BC (PRL 223). The absolute dates obtained from Mahagara also indicated a later date to the culture, though these dates have the possibility of contamination of samples. Two TL dates reading 2265 BC and 1616 BC and four $^{14}$C date reading 1440 ± 150 BC (PRL 409), 1330 ± 120 (PRL 408), 1440 ± 100 BC (PRL 407) and 1480 ± 110 BC (BSIP) have been obtained from the samples from Mahagara. These dates are not consistent with the stratigraphy possibly due to contamination of samples. In the light of calibrated $^{14}$C date obtained from Kunjhun, reading 3530-3335, the beginning of the Vindhyan Neolithic culture was proposed to 4th millennium BC. (Clark and Khanna 1989). Three $^{14}$C date have come to light from recent excavations at Lahuradewa in the middle Gangetic Plain, which read as 5320 ± 90 BP (BS 1951) (cal B.C. 4220, 4196, 4161) AND 6290 ± 160 BP (BS 1966) (cal BC 5298) (Tewari et al. 2001-2002, 2002-2003). Recently three relevant $^{14}$C dates have been obtained from Tokwa. When calibrated these read 6591 BC (BS-2417), 5976 BC (BS-2369), 4797 BC (BS-2464). An AMS $^{14}$C date for a carbonized domesticated rice would push the antiquity of the Neolithic culture at Lahuradewa in 7th millennium BC (Tewari et al. 2004-2005: 40). From the Neolithic horizon of Jhusi three $^{14}$C dates have been obtained. These dates when calibrated, read 7477 BC (BS-2526), 5837 BC (BS-2524) and 6196

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**Table: 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>Sohgaura</td>
<td>Pd. I</td>
<td>Corded ware, Rustified ware and small quantity of Red ware</td>
<td>Verma 1985 : 103-04</td>
</tr>
<tr>
<td>Lahuradewa</td>
<td>Pd. I A</td>
<td>Mainly course variety of Red ware, Black and Red ware which includes hand and wheel turned (slow wheel) varieties</td>
<td>Singh 1988-89: 6-17</td>
</tr>
<tr>
<td></td>
<td>Pd. IB</td>
<td>Course variety of Red ware, Black and Red ware with few sherds of Grey ware and Black were.</td>
<td>Singh 1988-89: 6-17</td>
</tr>
<tr>
<td>Seguwar</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 technological details. All these are mainly wheel made, although hand-made are also found.</td>
<td>Tewari et al. 2002-3:39-43</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 subgroups 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>Mesta et al. 2009:23</td>
</tr>
</tbody>
</table>
BC (BS-2525). The earliest date obtained from the site would put the beginning of the Neolithic culture of the site in 8th millennium B.C.

Regarding the span of the Neolithic culture, observations of P. Singh are very significant, domestication was a process which took considerable time and domestication of each type of domesticable animal and plant species would have taken place in different ecological niches at different times' (Singh 1991:5, Singh 2002: 128). In the Ganga Plain Neolithic culture and Neolithic way of life lasted for a long time starting from 8th – 7th millennium B.C. to 3rd – 2nd millennium B.C.

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References
Chicago : Aldine.
Cockburn, J. 1879 notes on Stone Age Implements from Khasi Hills and the Banda and Vellore Districts, Journals of the Asiatic Society of Bengal XLVIII, pt. 2.
Thapar, B.K. 1965, Neolithic Problem in India, In Indian Prehistory : 1964 V.N. Mishra and M.S. Mate (Eds.) pp. 87-112. Poona. Deccan College Post Graduate and Research Institute.

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