Two New Prehistoric Sites at Galudih in East Singbhum, Jharkhand

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ABSTRACT: Present study reports of a discovery of two new Pleistocene archaeological sites at Galudih in East Singbhum. This article is based on surface and partly on excavated findings discovered at Galudih-Mahulia (GLD: site 1) and Chandrarekha (CRH: site 2) in Jharkhand State of India. The two sites are located in a natural geographical setting and have yielded different types of tools made on different rock raw material, mainly quartzite pebbles, but quartz, mica, quartzite and basalt as well. We can note a change in the nature and pattern of the soil with stratigraphic variations due to the erosional activities of the Subarnarekha river. The findings prove that there was continuity in tool industry from chopper-biface to flake to flake-blade industry, followed by a rich microlithic industry. The evolving tool types and different techniques used by the Pleistocene ancestors indicate continuous intellectual development and human evolution in this part of eastern India.

INTRODUCTION

The remains of the prehistoric cultures are found all over the globe, in every part of the land which was suitable for human habitation in the Pleistocene period. In some places the remains are found open on the surface and in other places they are embedded down into the earth. So, to find such remains one has to explore and at some places excavate areas with such potentials. In the present context two sites were explored where not only tools were collected, but the relevant basic geology, especially Quarternary geology and stratigraphy geomorphology were also studied to point out the palaeo-climatic states. Stone tools have been collected from the two sites and have been categorized in terms of the nature of raw materials, technology of fabrication, tool types and others. Observation of natural sections and stratigraphy have been done in those sites, the stratigraphic section of artificial trenches have also been studied. Other associated samples like soil, rocks have been collected. The entire work was carried out by a team of third year (Honours) students of Bangabasi College and my colleague Dr. Gopal Mondal. Ghosh ('70) have earlier conducted archaeological research in this area and have made great contributions in the understanding of palaeolithic cultures of Singhbhum.

MATERIALS AND METHODS

Exploration was conducted during the month of February of 2012, 2013 and 2014 in this area and the following methods and techniques were of great help. These are — toposheet consultation, surface collection, study of topography and soil conditions, trial excavation, analysis of data on the background of geomorphology and stratigraphic evidences, collection of in situ tools, core debitages, study of various stones and rocks for understanding the nature of raw materials used for tool making. Also geomorphological information raw material

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transportation and palaeoclimatic relation for tool making were studied. Lastly, after analysis, the reconstruction of complete stratigraphic sequence was done for better understanding of cultural succession.

The Area: East Singhbhum

East Singbhum district is situated at the southeast corner of Jharkhand. It has been formed after isolating nine blocks from old Singbhum on 16th. January 1990. From the industrial growth and mining quarrying point of view this district has a leading position in Jharkhand. Before independence the entire area of east Singbhum district was part of old Manbhum district and old Dhalbhum estate. After independence it has been merged with greater Singbhum. The total geographical area of district is about 3533 sq km which is about 2.03% of the entire state area. About 53% of the total area of the district is covered by residual mountains and hills consisting of granite, gneiss, schist. It is a part of Chotanagpur plateau. The Dalma range extends from west to east covered by dense forest on the northern side. The Subarnarekha river flows from west to south-east direction. The district is rich in minerals and these are found scattered widely. From the administrative point of view this district has been divided into two Sub-Division – Dhalbhum and Ghatshila. The district consists of eleven blocks namely Golmuri-cum-Jugsalai (Jamshedpur), Potka, Patamda and Boram in Dhalbhum Sub-Division, and Ghatshila, Musabani, Dumaria, Baharagora, Dhalbhumgarh, Chakulia and Gurabandha in Ghatshila Sub-Division. There are 231 panchayats and about 1810 revenue villages out of which 1669 revenue villages are inhabited and rest 141 revenue villages are unhabitated. The headquarters of this district is Jamshedpur. (District Administration East Singhbhum, Jamshedpur *n .d.*)

Climate and Rainfall: The climate of the district is tropical. Its minimum temperature in winter ranges from 12 degree centigrade to 18 degree centigrade. In summer maximum temperature goes up to 46 degree centigrade and minimum at 24 degree centigrade. Average rain fall is 1310 mm per year. The climate of the district is temperate. Annual rain fall is 1200 mm to 1400 mm. This area comes under the path of south-west monsoon, so sometimes it receives heavy rain during July to September. During the summer season maximum temperature goes up to 40-45 degree centigrade whereas in winter it has recorded a minimum 8 degree centigrade. The district is rich in various minerals. Iron ore, Copper, Uranium, Gold, Kynite are the main minerals abound in this region.

Soil: Soil content of Jharkhand mainly consists of soil formed from disintegration of stones and rocks, and the soil composition is further divided into: Red soil – found mostly in Damodar valley and Rajmahal area. Micaceous soil (containing particles of mica) – found in Koderma, Jhumeritilaiya, Barkagon and areas under Mandar hill. Sandy soil – generally found in Hazaribagh and Dhanbad. Black soil – found in Rajmahal area. Laterite soil – found in western part of Ranchi, Palamau, and part of Santhal Parganas and Singbhum districts.

Rocks: About 53 per cent of the total area of East Singbhum district is covered by residual mountain and hill consisting of granite, gneiss, schist and basalt rocks. It is a part of Chota Nagpur plateau where igneous, sedimentary and metamorphosed rocks of Dharwarion period are found everywhere. The Dalma range as the main hill is extended from west to east covered by dense forest.

Rivers: Subarnarekha river and other small tributaries pass through the district. Swarnarekha Multi Purpose Dam is being constructed at its upper ridge. SMP right bank canal as well as left bank canal will irrigate about 45,000 ha of land in the district if completed. Apart from the main dam a barrage has been constructed in Galudih which will provide irrigation to the nearby states of Orissa and West Bengal. Swarnarekha supplies water to industrial city of Jamshedpur and its suburban areas.

FIELD AREA

The present fieldwork was conducted at Galudih, East Singbhum of Jharkhand. The natural setting and the geographical formation of the land was studied. The photographs show the area where the field survey was conducted. Two sites i.e. GLD (site 1) & CRH (site 2) were studied respectively which yielded different rocks and tools. The primary laterite may be from Pleistocene or early Pleistocene and the low level secondary laterite is a criteria of Pleistocene and recent (Ghosh, '70). A succession of dry and wet

periods during the Pleistocene can be recognized from the sequence of deposits. The gravel on detroital laterite indicates a wet phase and silt of clay indicates a dry phase. The indicators are: Upper Pleistocene – upper clay, upper loose gravel; Middle Pleistocene – lower silty clay, lower gravel; and Lower Pleistocene – clay, compact secondary laterite (Ghosh, '67, '70).

Geographically the region appears to be partly covered with dense forests. The settlements are in scattered pattern. Physiographically the region is highly dissected plateau, terrain, undulated lands with river Subarnarekha flowing on the western side through the area. Practically the river divides the region into two units. The north eastern part is covered with forests, with highest altitude of 351 ft. There is a slope south west wards with erosional rolling plains. The Jadugora range lies in the west and the Dalma range in the east.

Figure 1: General view along the bank of Subarnarekha river near field area

The river Subarnarekha emerges from Pisca Nagri near Ranchi, now the capital city of Jharkhand. The elevation of the river is 610 m (2,001 ft.) from the sea level. The total length of the river is 470 km. It traverses a long distance and finally drains into the Bay of Bengal near Talsiri. The surroundings of the area can be easily identified from the Fig. 1. The figure shows that the river is passing through highlands and a deep river bed is formed due to river erosion. The river across the barrage on the north eastern part meets with the river Gauri. The important terrace like formations are there at an average height of 200-350 ft. The entire land is gradually declining towards the east. The land surface shows direct evidences of climatic factors such as erosion, weathering and lateritic formation.

The field area was searched thoroughly for tools and surface collection has yielded quite a number of tools and rocks from each site. The site-1 (GLD) and site-2 (CHR) have yielded different rocks and tools. The sites seemed to be well accumulated with suitable materials for tool making. The change in nature and pattern of the soil, the stratigraphic variations were noticed. Nature and pattern of erosion has also

Figure 2: Development programmes in progress near the sites of fieldwork.

changed from time to time. Stratigraphic variations suggest the climatic fluctuations and the river banks show erosional activity, so the site is entirely exposed. The erosional activity of the river was taken into account and the river bed was found to be exposed. Primary lateritic was present on the hill tops and due to erosion it was converted into secondary laterite. From the excavation we found a lot of in situ lateritic pebbles, quartz, mica, quartzite and basalt (see Fig. 3 and Fig. 4). In India laterite is a weathered product of various rocks; mainly basalt and other aluminous rocks under a warm, humid, tropical monsoon climate. Stratigraphy was done on the bank of river Subarnarekha, Mahulia, Galudih, East Singbhum (near Barrage). The area was located in 22°38'N, 86°24'E at an altitude of 292 ft above sea level.

THE SITES

Site-1(Galudih, Mahulia, Subarnarekha River Bank)

Step like formation were observed with layers of sandy river bed, calcified bed, kankar soil, hand sandy soil and lateritic soil from bottom to top. Granite and basalt rocks encrusted with mica, quartz and quartzite were found. The 1st and 2nd. erosions were observed at a height of 112 cm and 118 cm respectively.

Site-2 (near Chandralekha Village)

The site-2, along the coast of river Subarnarekha, is located at 22°39'N, 86°22'E, about 332 ft above sea level. We observed the land formation and the topology of the concerned area. We took the account of the stratigraphy and also collected stones, rocks, including few tools and pebbles. Some prehistoric tools such as hand axe, crizer, chopper and cleaver were observed and collected (Fig. 3 and Fig. 4). The latitude, longitude and altitude of the site were jot down according to the data received with the help of GPS machine. The course of the river was also observed within and from the particular site concerned was quite broad with respect to the main flow.

FINDINGS

Rocks and stones from two sites – GLD (site-1) and CRH (site-2), were found to be quartz, granite, gneiss, mica schist, quartz with phyllite banding, hornblende, pyroxene and mica. When granite is metamorphosed banding appears known as gneiss. Here we got one piece of gneiss with reddish banding. We found quartz banded with phyllite. Quartz is the

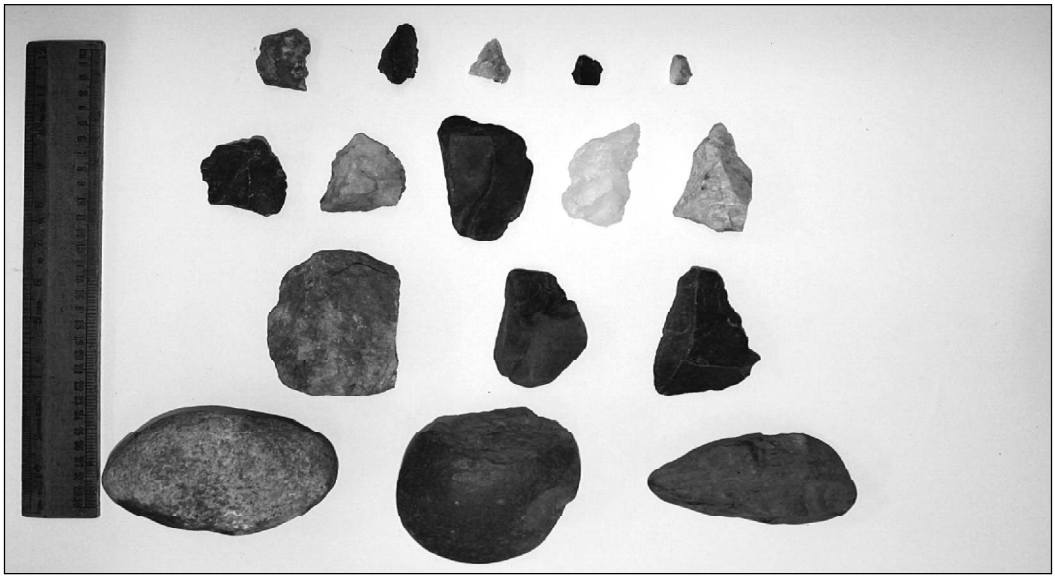

Figure 3: Tool types collected from the sites

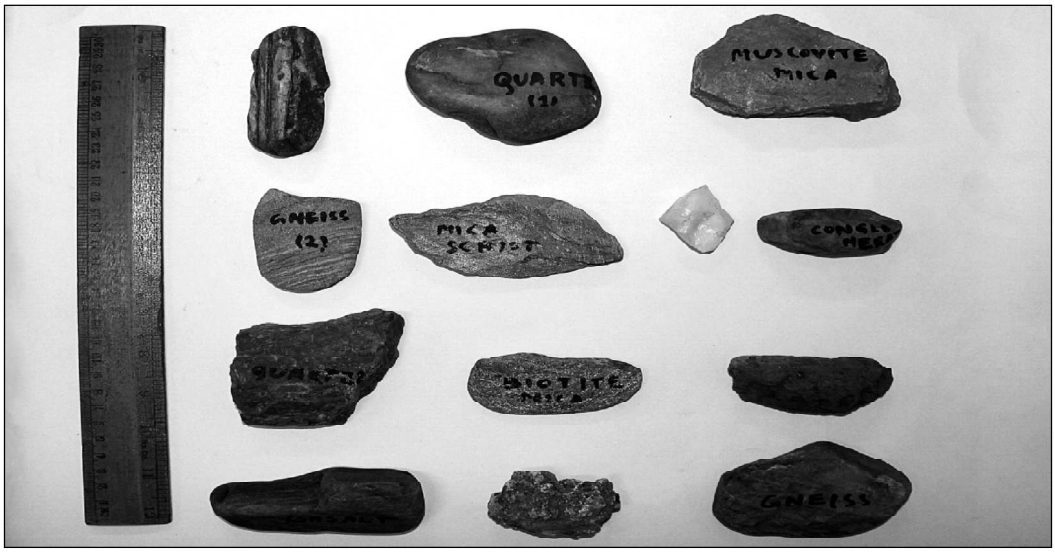

Figure 4: Tool types collected from the sites

mineral and quartzite is the rock. Granite was also found. It contains minerals of quartz, feldspar, hornblende, pyroxene and mica. Schist was found along with mica. Besides this we also found certain calcified laterite, marble and ghuting. On the basis of tool assemblage the relative chronology and evolution could be chalked out. The appearance of hand axes, cleaver and then scraper and flakes show a clear evolutionary change in tool types as well as their functions. Points, flakes and flake blades are the representatives of Upper Paleolithic whereas hand axe and cleavers are from Lower, and points and flakes are from the Middle Paleolithic period and ultimately microliths from Mesolithic period. Thus it implies that

with the change of time there occurred evolutionary track of tool typology and technology.

CONCLUSION

Pleistocene stratigraphy, climate and cultures in Singbhum are correlated. These sites were a meeting ground for the "biface" industries, "flake" industries and "flake-blade" industries during Paleolithic period. Later on the area was inhabited by Mesolithic folks as evidenced from the microliths. In the present study, only the specified areas was taken into consideration where tools were mainly found from secondary laterites. These findings prove that there was a positive continuity in tool industry from 'biface' to 'flake' industry to 'microliths. Our work was mainly of exploratory nature From the preliminary survey and the findings it can be concluded that both the sites showed very high potential in terms of cultural remains and should be explored further with specialized long term excavation programmes in near future.

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