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Abstract:

The recent investigation of several American archacologists on site formation processes have ushered a new dimension in African palaeolithic studies (Gifford 1980, Toth 1982, Potts 1982, Kaufulu 1983, Shick 1984). These studies inspired archaeologists to work on the ecogenesis and anthropogenesis of Indian palaeolithic archaeological deposits, giving them reliable maening to reconstruct the human past and his behaviour (Ahsan 1993, Paddayya & Petraglia 1993). It was realised that site formation processes played a very important role in biasing the archaeological data. So it is necessary to consider the impact of formation processes on the archacological data before any inference about human past and his behaviour. Otherwise any direct inference on archaeological data of any site might lead us to wrong and unreliable conclusions about past human activities.

Keywords : Archeological Study, Balwara Narmada Valley

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A Study of Formation Processes of Palaeolithic Site at Balwara in the Narmada Valley of Central India

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Introduction

The recent investigation of several American archaeologists on site formation processes have ushered a new dimension in African palaeolithic studies (*Gifford 1980, Toth 1982, Potts 1982, Kaufulu 1983, Shick 1984*). These studies inspired archaeologists to work on the ecogenesis and anthropogenesis of Indian palaeolithic archaeological deposits, giving them reliable meaning to reconstruct the human past and his behaviour (*Ahsan 1993, Paddayya & Petraglia 1993*). It was realised that site formation processes played a very important role in biasing the archaeological data. So it is necessary to consider the impact of formation processes on the archaeological data before any inference about human past and his behaviour. Otherwise any direct inference on archaeological data of any site might lead us to wrong and unreliable conclusions about past human activities.

In the present paper the author has tried to understand associated formation process (ecogenesis and anthropogenesis) of the palaeolithic site Balwara of Madhya Pradesh. The site has been well excavated during the seasons 1988-89 and 1989-90 by the Archaeological Survey of India under the guidance of Mr. S. B. Otta. The author visited the site during the excavation work in the season 1989-90. This paper has been written mainly on his observation and the excavation data gathered through personal communication with Mr. S.B. Otta. Professor S.N. Rajaguru of Deccan College, Pune also helped the author by giving many valuable suggestions during discussion with him.

Location of the Site

The site is located on the west of the forest village settlement at Balwara, which is about 2 kms north west of village Purni and 55 kms north of Khandawa in East Nimar District, Central India. This site lies on the southern most fringe of the Vindhyan hill range which occurs in the Deccan trap country. The Narmada river flows about 5 kms north of the site with the Vindhyan hills in between (fig-1&2).

Nature and Topography of the site:

Artefacts are scattered at the site over an area of about 500 x 300 sq.m. It is an open air palaeolithic site. The site occurs almost at the contact zone of the Vindhyan hill and the pediment developed over the Deccan Trap. Since the site is on the pediment surface, it is higher

than the surrounding area with an elevation of 280 m above sea level overlooking the Deccan Trap on the south. A small ephemeral stream dissects the pediment surface and meets another high order stream known as Pipal ghati which meets the Narmada River about 8 km north of Balwara. This small ephemeral stream is locally known as Sikander stream. Water remains in this stream throughout the year in the form of pool. There is good vegetational cover of dry deciduous type around the site.

Archaeological Evidence

The Palaeolithic industry encountered at the site comprises both heavy and light duty tools as well as a large amount of simple artefacts. The major varieties of heavy duty tools include cleavers, handaxes, choppers, knives, picks, large utilized flakes etc. Whereas the light duty tool category comprises mostly different types of scrapers and utilized flakes.

Of the handaxes and cleavers, the frequency of cleavers dominates over that of handaxes. These handaxes and cleavers are mostly on flakes, thin, well retouched, without cortex, and very symmetrical in shape. In general it is a flake-core industry (*Otta* personal communication).

Artefacts are made mainly on Vindhyan quartzite, apart from few artefacts on chert. Most of the chert artefacts are highly weathered, whereas quartzite artefacts are fresh. However, all artefacts show little abrasion which is due to movement of artefacts by colluvio-fluvial activity and due to long term exposure on the surface.

General Stratigraphical Observations

On the basis of observations made on various deposits noticed in trial trenches at the site excavated by Shri S. B. Otta of the Archaeological Survey of India, the author has observed the following composite stratigraphical succession which has been reconstructed during his visit in the site:

Quaternary deposits at the site either abuts against the Vindhyan rocks or rests on the pediment developed over weathered Deccan Trap. Stratigraphical succession at the site from bottom to top is as follows:

a) Reddish Brown Gravely Loam

The pre-Palaeolithic deposit is brownish gray to reddish in colour. This gravely loam rests on uneven weathered Deccan trap surface. The loam is cemented by powdery carbonate of ground water origin and has been deposited by a palaeo-channel which probably had no direct linkage with the present Narmada (personal communication with *Prof. Rajaguru S N*). The gravel occurs as lenticular patches within the fine silty material. Litho-component of the gravel are dominated by local basalt and quartzitic sandstone. Since it is locally derived sediment, the spread over of this deposit is a very localized phenomena confined only to the site.

b) Rubble Deposit

Overlying the above mentioned loam is the rubble deposit which is associated with palaeolithic artefacts. There is a disconformity between the rubble deposit and the underlying loam. The rubble is poorly sorted and comprises angular blocks and chips of quartzite. The

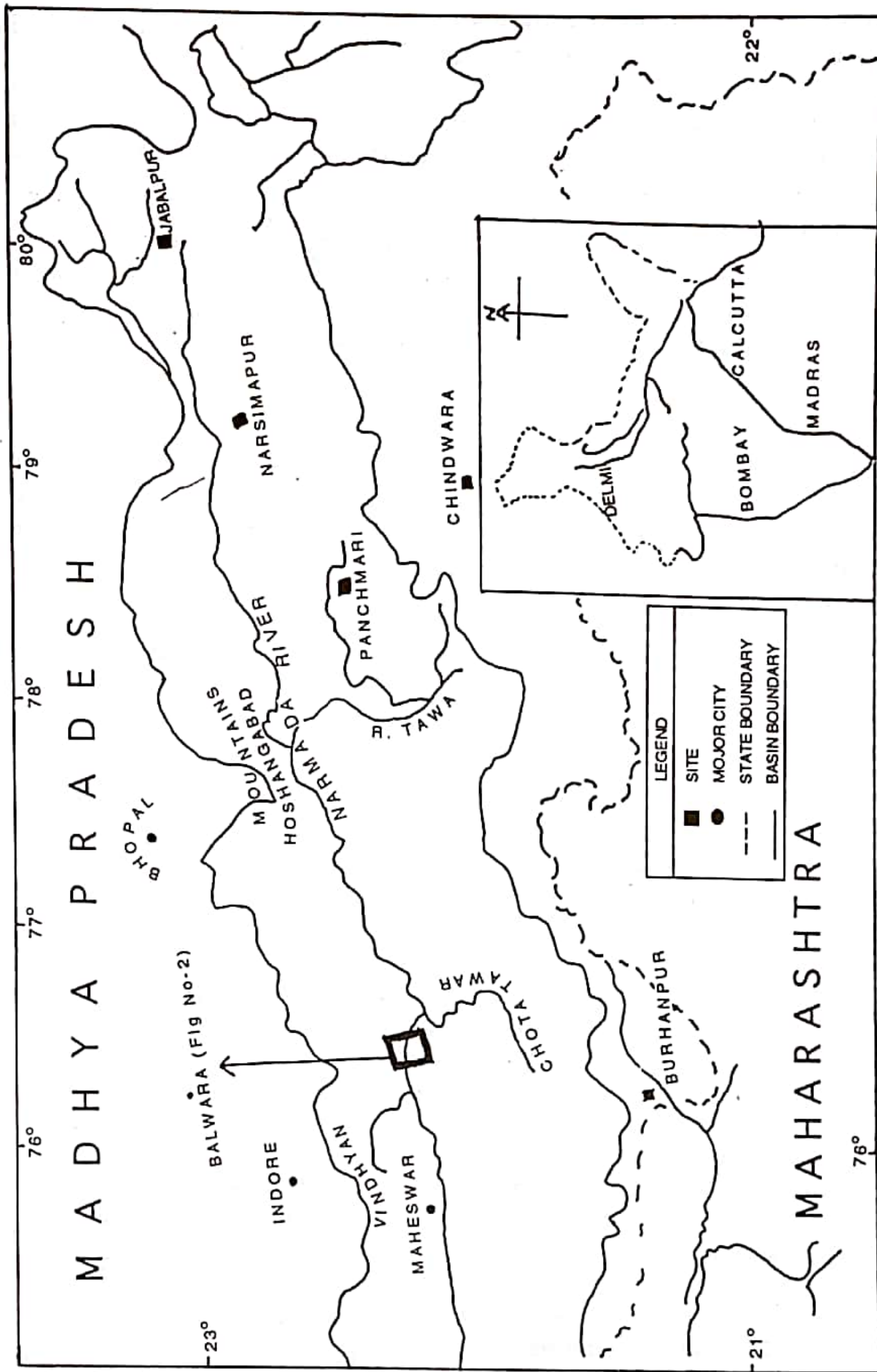


Fig-1. Map Showing location of the palaeolithic site Balwara.

maximum thickness of this deposit is about 50 cms (*Ahsan, 1993*). In one of the trial trenches it has been noticed that the rubble is fully or partially weathered with distinct development of weathering rind on blocks. However, the artefacts associated with the rubble are fresh. This suggests that the deposition of rubble in the area started long before the palaeolithic occupation at the site. This rubble seems to have slid down from the hill slopes and was deposited over the alluvial fill surface of the palaeochannel.

c) Yellowish Brown Silt

The artefact bearing rubble deposit is capped disconformably by yellowish brown silt. This yellowish brown silt is sandy silt, compact and rich in carbonates. This silt, with a thickness of less than a meter, was laid down as an overbank deposit by the tributary of the Narmada during the Late Pleistocene (*Ahsan, 1993*).

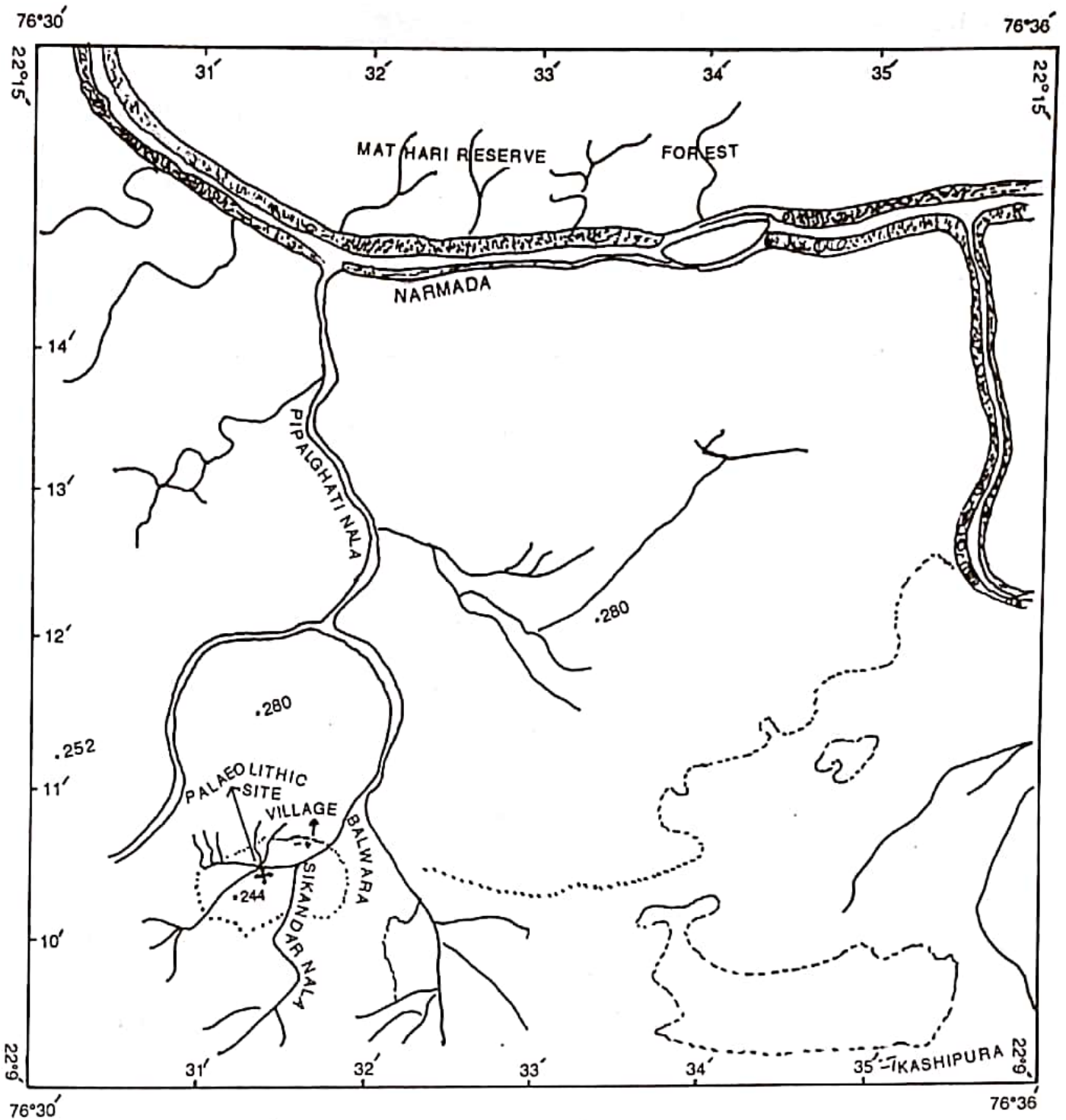
d) Black Clay

Stratigraphically the deposition of black clay is subsequent to yellowish brown silt. This deposit is compact clay, crudely laminated and fissured. At certain places this clay is impregnated with powdery carbonate of ground water origin. The black clay is of fluvial origin and is of early Holocene in age (*Badam 1979*).

Palaeo-environment and Palaeo-landscape

Locally derived pre-palaeolithic loam of low energy sedimentation, at the site indicates relatively better forest cover in a climate probably more wet than the present one. Moreover, this sedimentation was very slow and the oxidization of sediment suggests that it was formed in anaerobic environment.

Overlying the pre-Palaeolithic loam is artefact bearing rubble deposit which is formed in high energy environment. The change from earlier low energy loam to high energy colluvium may be due to change in climate. i.e. from sub-humid (or wet) to semi-arid (or dry). Or such a process has been triggered in a transitional climatic phase from wet to dry or viceversa. One thing is certain that the rubble has been deposited as colluvial product, a result of strong stormy rain fall which is a characteristic feature of the rainfall pattern of the central Narmada basin. These processes like debris flow, sheet wash, etc. brought the rubble from the already exposed weathered surface of the hill to the pediment surface. Availability of raw material, palaeo-channels, and pools in and around the site might have attracted palaeolithic man to occupy and exploit the site for making tools. The site was probably exploited by palaeolithic man seasonally. During the rainy season due to heavy rain fall, discarded artefacts along with rubble might have changed their distribution pattern. Artefacts were added and subtracted by mass movement processes, surface run off, and other processes of fluvial origin. Thus the site was scattered with rubble and artefacts unevenly. It is very difficult to determine the period of palaeolithic occupation with the collected data. In the post-palaeolithic occupation period, the site had under gone seasonal flooding and surface wash. During the terminal Pleistocene, the site was affected by the back water flooding of Narmada and its tributaries like Pipalghati and Sikander stream and the loamy sediment got deposited at the site.



LEGEND	
.....	Forest hill area boundary
—	Nala
.280	Height in metre above mean sea level
+	Palaeolithic site
⊥	Village

Fig-2. palaeolithic site of Balwara with Respect of Narmada river, pipalghati Nala and Sikandar Nala.

Conclusions

These brief field observations at Balwara site led us to infer that the site has two components - fluvial and anthropogenic and these factors played an important role in the formation of the site. It has been also seen that the site has a less disturbed context. But its degree of disturbance is more than that of any primary palaeolithic site and is less than that of any secondary palaeolithic site. The reasons are described below :

- 1) Artefacts of Balwara are less abraded. It therefore, appears that the moderate movement of artefacts was there by colluvio-alluvio processes.
- 2) Movement of the artefacts in Balwara was restricted by higher terraces in the flow direction and so artefact movement was within an area of more than 500x300 sq.m.
- 3) In Balwara, the site was exposed to air for a considerable period and underwent modification through different colluvio-fluvial and diagenetic process.

Bibliography

- Ahsan, S.M.K. 1993. *A Study of Palaeolithic Site Formation Processes in Sub-humid Environment of Central India With Sepecial Reference to Samnapur Palaeolithic Site (Madhyay Pradesh)*. Unpublished Ph.D. Thesis. Poona University: Pune, India.
- Badam, G.L. 1979. *Pleistocene Fauna of India*, Poona : Deccan College.
- Gifford, D.P. 1980. Ethno-Archaeological Contribution to the Taphonomy of Human Sites, in *Fossils in the Making: Vertebrate Taphonomy and Palaeo-Ecology* (A.K. Behrensmeyer and A.P. Hill Eds.), University of Chicago Press: Chicago.
- Kaufulu, Z.M. 1983. *The Geological Context of Some Archaeological Sites in Kenya, Malawi and Tanzania: Micro-Stratigraphy, Site Formation and Interpretation*. Unpublished Ph.D. Thesis, University of California: Berkely.
- Paddayya, K. and M.D. Petraglia, 1993. Formation Processes of Acheulian Localities in the Hunsgi and Baichbal Valleys. Peninsular India, in *Formation Processes in Archaeological Context* (P. Goldberg, D.T. Nash and M.D. Petraglia Eds.), Monographs in World Archaeology No. 17. Madison : Prehistory Press.
- Potts, R. 1982. *Lower Pleistocene Site Formation and Hominid Activities in Olduvai Gorge, Tanzania*. Unpublished Ph.D. Thesis. University of Harvard: Cambridge, Massachusetts.
- Shick. K.D. 1984. *Processes of Palaeolithic Site Formation: An Experimental Study*. Unpublished Ph.D. Thesis. University of California: Berkely.
- Toth, N.P. 1982. *The Stone Technology of Early Hominids at Koobifora, Kenya : An Experimental Approach*. Unpublished Ph.D. Thesis. University of California: Berkely.