

Evidence for Palaeofloods at Ramnagar

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The Ganga Plain is highly diversified and can be differentiated in many geomorphic elements evolved during Quaternary times mainly in response to climatic variations. Among different geomorphic surfaces Upland Interfluvial (T2) surface also known as Bhangar or Older Varanasi alluvium is oldest and forms baseline for rest of the surfaces younger to it (Singh, 1996). This surface is densely populated and cultivated. Almost all the major and minor rivers are incised into the T2 surface and forms 10-20m. high cliffs along their river channels. This surface is unrelated to present day channel process and acts an independent domain of sedimentation. Even high magnitude catastrophic floods do not inundate the T2 surface (Shukla and Singh, 2005). Probably because of this advantage, most of the archaeological sites are found to be located along river channels on high cliffs. However, due to relatively low-level of incision and easy access to water, the early human settlements activity seems to have more concentrated along alluvium fed minor rivers than the major Himalayan Rivers having higher entrenchment and discharge. But, later settlements which were supported largely by river trade cluster along the large river sides. Ramnagar also is an ancient settlement of this category.

Ganga River is also entrenched into the T2 surface and most of the places form high cliffs on the southern side of the channels, while northern banks are gently sloping and affected by regular floods (Singh, 1996). However, near Varanasi it is meandering in character and cliffs are present on both sides of the channel and, therefore, many archaeological sites have been discovered on either bank of the river Ganga.

The archaeological site at Ramnagar is located on the northern side of River Ganga near down current end of the meander bend. At this point cliff is 20-25 m high forming a linear ridge, and archaeological horizon located at about 15m above the river channel. For archaeological investigation at least six trenches were dug to various depths by the team of Banaras Hindu University and Jñāna Pravāha, under the leadership of Vidula Jayaswal, Palaeoflood evidences were recorded in three trenches placed 10-11m apart. In trench D'3 which is 1.5m deep, the palaeoflood is evidenced by gray coloured fine-grained micaceous sand unit

embedded with anthropogenic layers containing pottery. About 30 cm below the ground, sand is accumulated in the form of 15-20 cm thick and 80 cm wide lens. The sand lens is burrowed and also incorporates mottled silty-mud layers. Laterally it grades into a 40 cm thick zone of sand silt and mud containing haphazardly distributed charcoal, pottery, white burnt ash and bone fragments. Some worked bone pieces are also seen. In rest of the two trenches B'2-C'2 and C'3, sand is concentrated in patches and also distributed with silt and mud forming laterally continuous bands at trench scale. In all the three trenches, sand unit is resting over artificial pavement made up of compacted calcretes mixed with silty mud and is also covered by a similar layer bearing signatures of human activity. As evidenced by the compact anthropogenic hard layer at the base with many backing pits intruding through the layers up to more than one meter and filled with broken pottery, it is believed that a catastrophic flood might have inundated the adjacent cliff surfaces where human activity was in progress. Floodwater slightly reworked the pavement, brought the artifacts in suspension that were subsequently deposited with sand. Such high magnitude floods might have greatly influenced the human settlements and their relocalization through time and space. On account of Archaeological remains, the palaeoflood at Ramnagar may be dated to around 3rd or 4th Century BC.

References

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