

Chirand Chalcolithic Culture

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With the end of the Neolithic Age, several cultures started using metal, mostly copper and low grade bronze. The culture based on the use of copper and stone was termed as Chalcolithic meaning stone-copper Phase. In India, it spanned around 2000 BC to 700 BC. This culture was mainly seen in Pre-Harappan phase, but at many places it extended to Post-Harappan phase too. The people were mostly rural and lived near hills and rivers. The Chalcolithic culture corresponds to the farming communities, namely Kayatha, Ahar or Banas, Malwa, and Jorwe.

The term Chalcolithic is a combination of two words- Chalco+Lithic was derived from the Greek words "khalkos" + "líthos" which means "copper" and "stone" or Copper Age. It is also known as the **Eneolithic** (from Latin aeneus "of copper") is an archaeological period that is usually considered to be part of the broader Neolithic (although it was originally defined as a transition between the Neolithic and the Bronze Age).

Chirand is an archaeological site in the Saran district of Bihar, situated on the northern bank of the Ganga River. It has a large pre-historic mound, known for its continuous archaeological record from the Neolithic age to the reign of the Pal dynasty who ruled during the pre-medieval period; the excavations in Chirand have revealed stratified Neolithic and Iron Age settlements, transitions in human habitation patterns dating from 2500 BC to 30 AD. Chirand village is located on the northern bank of the Ganga River; the river Ghaghara joins Ganga a short distance away from near Revelganj. The Sone River joins Ganga about a few kilometres away from Chirand. About 2.5 kilometres to the north of the mound there is a dry river bed, inferred as one of the meandering dry loops of the Gandaki River. Thus, there are four rivers in the vicinity of Chirand; the village has undergone erosion due to which the mound abutting the Ganga River bank is exposed, revealing brick features and potsherds. On the top of the mound there is a mosque, built by Sultan Abul Muzaffar Hussain Shah of Bengal in 1503 AD.

This mosque reveals ruins of pilasters of Hindu temples. Chirand is located 14 kilometres from the district headquarters in the state of Bihar; the Archaeological Survey of India controls about 0.5 square kilometres of the area of the village. The average annual rainfall in the area is 125 centimetres. Much of the rainfall occurs from June to September when monsoons tend to start; the Ganga River tends to flow beyond capacity causing flooding and deposition of alluvium in the adjoining area. Part of the village, including about 10 metres of the mound, have been subject to submergence and river erosion caused by the Ganga river; the Nonia tola in the village was in imminent danger of getting submerged. In 2010, protection of the part of the village exposed to erosion was envisaged by way of stone pitching; the Chirand village, as per 2011 census, has a population of 2971 comprising 520 families. The male population is 1600 while that of females is 1371. Literacy rate is 61.09 % of the village compared to 61.80 % of the state.

The Pala dynasty ruled the region. Ananda, a disciple of Buddha, died in Chirand. King Mayurdhwaj of the Chero dynasty ruled from Chirand. W. W. Hunter, a historian known for publishing nine volumes of *The Imperial Gazetteer of India*, has recorded an account of this village which he visited in 1871; the Bihar State Directorate of Archaeology conducted excavations at the Chirand mound 1962–63 and returned for more 1970–71. The mound is 1 kilometre in length; the Neolithic deposits uncovered a layer of 3.5 metres thickness. The civilization includes area in India and South Asia that dates back to the Neolithic age according to archaeological finds from this village mound and four other locations in India. Chirand Neolithic group occupied the plains, while their contemporaries inhabited the plateaus and hills; the occupational categorization in Chirand covers three periods – Period I Neolithic, Period II Chalcolithic and Period III Iron Age. Carbon dating of the top layer of the Neolithic period dates the layer between 1910 BC and 1600 BC.

The lowest level of the finds date to 2000 BC. Neolithic people experienced an economy that included hunting, gathering and animal rearing. Paddy husk impressions in some potsherds indicate Neolithic involvement in cultivating rice and cereals such as wheat, moong and barley. Both cultivated and wild rice was again during winter; the wild forms of rice are *Oryza* *Oryza perennis*, from which *Oryza sativa* originated. The archaeological finds in Chirand are from a Neolithic deposit of 3.5 metres thickness, a Chalcolithic layer 5.5 metres thick and iron age formation of 2.45 metres thickness. Copper was used during the Chalcolithic period. A cache of

88 Kushana period coins were unearthed at the site. Analysis of antiquities related to skeletal remains revealed 12 species of domesticated and wild animals: cattle, sheep, barasinga, elephant, cheetal, dog, a carp and two types of turtles. Bones of birds and fish were found. Faunal finds indicate. 25,000 potsherds excavated from Chirand are grouped according to the Period II Neolithic pottery appearing more refined than the Period I pottery, all from smoothed clay mixed with mica.

Most of the pottery was handmade. Some vessels were made by turn dabbing. Half of the potsherds are red ware and half are black and red ware from different shapes and sizes of vases and knobbed pottery. Pot wares in varying designs in post-firing painting technique in ochre colour of grey ware and few in red-ware were found; the Chalcolithic pottery unearthed at the site are of red ware pots and pans. Neolithic people lived in circular daub huts made of mud and reeds with rammed floors. Earlier hut floors were built below ground level hut floors were built at ground level. Hearths and oblong shaped ovens were found in a semicircular hut; the white colour of the soil around the hearth and the ovens found at the site pointed to animal meat roasted in the ovens for community feeding. Rice was a staple food. Mud boundary walls of houses were traced. Burnt chunks of clay with reed or bamboo impressions suggest. Houses were larger in size in the Chalcolithic period compared to the Neolithic