

(ABSTRACT)

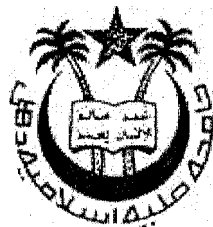
COPPER TECHNOLOGY IN CHOTANAGPUR
REGION: AN
ETHNOARCHAEOLOGICAL STUDY

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Copper is the first metal to be widely used by human being for its daily needs. The utility of the metal can be understood from the fact that the first metal age was marked by the Chalcolithic Age.

I have done extensive field work in the copper producing areas of Chotanagpur Region and have dealt with a detailed account of the technological process followed. In the first chapter called '**Introduction**', aims and objectives, methodology, sources and Geomorphology of the region is discussed. In the chapter '**Ethnic Groups and in Copper Producing Areas**', various ethnic groups, distribution of copper and its alloying metals have been taken into account.

An ethnographic profile of copper workers residing in Jaria village has been done in the third chapter '**Processes of Copper Production- An Ethnographic Profile**'. For *production* they use *equipments* like kundali (a kind of tong) of various sizes, dahan, sanakundi, chaaki, martul, hammer made of wood completely as well of iron with wooden handle, cutter, fan or tuyere and rethi. The copper *smelting* is done in furnace. There are furnaces of different size for different purposes. The work begins at 2a.m.when the heat in the atmosphere is lowest and the surrounding is dark enough to make out the right colour of the flame. *Casting* is done in a wooden cast and oil of karanch is used to lubricate it. Also straw is used while pouring the liquid metal to avoid bubbles. *Forging* is done near another furnace with red-hot burning charcoal. After the copper blooms have been solidified they are hammered with heavy sledge hammer. It begins with one bloom and gradually ends up to 20. The beating begins with 5 people and gradually reduces to two. This process continues with simultaneously heating and cooling of the blooms. These processes are carried with utmost care so that no crack develops in the blooms. After beating has been done, plates of different sizes are formed. Next step is followed by *burnishing* in which the plates are given shine and

flowery design is made by beating in certain specialized manner. Also the rim or the border of the plate is given sharpness. Thereafter *etching* is done where the plates are given circular linings at uniform intervals in the inner parts of the plates. This gives a complete look to the plates.

In the section *Marketing*, I have dealt with how various groups like *thatheras, mahajans, buyers, sellers, the middlemen, the police* etc. are engaged in the whole networking. Then in the *Consumer* section, mode of selling and different buyers like various ethnic groups staying in the region as well as poor people who come to this haat for their weekly purchasing have been taken into account. In *Social Structure* part social pattern of the community is dealt with. Highest in order are the group working with pure copper then follows the alloy workers and finally the group working with scrap metal. The other copper producing technologies like Lost Wax or Cire Perdue Method, Dhokra and Hammering Processes have been discussed later in the chapter.

The fourth chapter '**An Ethno-Archaeological Study Of Copper Technology**' different typology of artifacts are dealt with which have been found in the region as well in different parts of the country to find continuity or break in the tradition taking into account few recent technology. Finally in the last chapter '**Conclusion**' I find out that the copper producing technology has continued since Chalcolithic times in the region with minor changes in equipments and production process. Also metal has become rare and mining a costly venture so scrap metal workers are found in greater number in comparison to pure copper workers. There are villages specialized in different artifact production and market at a common place called haat. The time period for Chalcolithic Age in this region has been approximately 1800-1000 B.C.