ABSTRACT

Iron in Eastern India: Studying Archaeological Assemblages and Contexts

The present work is essentially a documentation and interpretation of archaeological and ethno-archaeological sources pertaining to the use of iron in eastern India (from initial iron bearing phases to the Gupta period i.e. 4th-6th centuries CE).

It attempts to unravel the role of iron in the evolution of settlements in eastern India. By eastern India, we mean the present states of Bihar, Jharkhand, West Bengal and Orissa. It traces the trajectory of that vital connection between the use of iron and settlement dynamics which can be obviously linked with the availability of the iron ore resources in the region concerned. This connection is essentially portrayed and is archaeologically apparent from the evidence pertaining to the extraction processes of the same and its different modes of production and consumption. These parameters are essentially, crucial factors, in the reconstruction of the settlements history associated with the same. However, the present work is preliminary in nature and takes into consideration the period mentioned above.

The present work has been divided into the following six chapters:

1. Introduction
2. Distribution of Iron Ores
3. History of Researches and Literary sources.
4. Sites/ Settlements and Their Assemblages
5. Pre-Industrial Iron Smelting Activities
6. Summary and Epilogue

This first section of the first chapter is the preamble of the thesis which deals with the aims and objectives of the present work (as mentioned earlier). The second section attempts to introduce the study area by specifying the physiographic, geomorphic and geological features of the region concerned.

The second chapter essentially deals with the distribution of iron ores in the present study area. It was felt necessary to compile the widespread database related to the same as the presence of the numerous evidence of smelting of iron in this wide distribution zone (resource bearing area) gives us some understanding about the nature of exploitation of iron ores and obviously hinting to the procurement networks involved between the extraction zones and the centres of production.
The first section of the third chapter attempts to deal with the history of researches, so far carried out on the concerned subject. In this section an attempt has been made to categorize the pioneering works based on different themes of the concerned subject like ethnography, metallurgical study, socio-economic aspects associated with the use of iron etc. The existing debates on different aspects of the use of iron have been duly incorporated here. The subsequent section explores necessary references to iron as found in different literary sources. In the said endeavour, the concerned verses referring to the diverse aspects of the use of iron have been cited.

The fourth chapter incorporates the enormous excavated database related to the iron bearing horizons so as to explain the nature (i.e., the contexts in which the iron occurred and how it was used) of the use of iron in eastern India. However, the chapter also includes the explored data reported so far, besides, my field data. Since there is no separate chapter to study the synthesized data on retrieved assemblages, compilation of the same has been done in the discussion of respective sites/settlements. In this chapter an attempt has been made to delineate the character of sites/settlements and their relationship with the pattern of production and consumption of iron and the network involved in the exchange of the same (both ingots and finished objects).

The fifth chapter explores the database concerning the pre-industrial iron working/smelting of eastern India. Here, the term pre-industrial iron smelting essentially signifies the traditional/conventional method of iron smelting practiced by the indigenous people, i.e., before the introduction of modern steel making methods as followed in the industries during the British period onwards. This parameter will provide an outline to explain the methodology of iron extraction adopted through the various stages, i.e., the processing of ore to the production of iron ingots since the bygone days.

In the concluding chapter, the database, synthesized here has been summarized and some hypothesis has been rendered. The discussion in the epilogue touched upon certain fundamental issues of iron working (in ancient eastern India) i.e., the debates on its production, distribution and consumption. The role of the present study area in the contexts of extraction process, primary and secondary smelting and the utilization of finished products in the given chrono-cultural framework has been highlighted.