

**EARLY IRON SMELTING TECHNOLOGY
IN THE
SIGIRIYA-DAMBULLA REGION
Dehigaha-ala-kanda at Alakolavava**

by

Solanga Arachchige Dona Marie Rose Augusta Solangaarachchi

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University of Kelaniya**

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ABSTRACT

of

Early Iron Smelting Technology in the Sigiriya Dambulla Region Dehigaha-ala-kanda (Ko14) at Alakolavava

Ancient settlements, dated from the 10th century BC onwards in the Sigiriya Dambulla Region in the North Central Province in Sri Lanka, have been surveyed and studied in great detail by various scholars. The earliest dated sites are Ibbankatuwa in Dambulla and Aligala in Sigiriya. From the remains of the techno-cultural activities within the settlements unearthed from the excavations at the Ibbankatuwa cist burial site which belonged to the settlers of the ancient megalithic tradition, a clear picture emerges of their iron using agro-economic culture and well organized social system. The research excavations at Ibbankatuwa had been carried out as part of a collaboration program between the Central Cultural Fund (CCF)/Cultural Triangle, the Postgraduate Institute of Archaeology (PGIAR) and The Kommission fur Allgemeine und Vergleichende Archaeologie (KAVA) of the German Archaeological Institute (Bandaranayake 1990). However to understand fully the development of these ancient historic settlements in this area, it is imperative that the technological aspects should be studied in detail.

Focusing on the above aspects, the Postgraduate Institute of Archaeology launched a Settlement Archaeology collaboration project with the RIKSANTIKUARIEAMBETET/RAA (Swedish Central Board of National Antiquities) in the Sigiriya-Dambulla region which includes the four major river basins of the area: Kiri Oya, Sigiri Oya, Mirisgona Oya and Dambulu Oya (Bandaranayake 1990). The exploration conducted in the Kiri Oya basin (Manatunga 1990, Manjusri 1990, Mogren 1990) alone revealed nearly 70 sites, prehistoric, protohistoric, historic and other, connected with iron production. One of the early historic iron smelting sites Dehigaha-ala-kanda at Alakolavava was unearthed in the systematic archaeological excavation series in 1990 and 1991. Archaeological research enabled the identification of large scale iron smelting, using an advanced bloomery process with magnetite ore at the site. Pieces of iron slags of various sizes and

shapes and slag mounds covered with soil layers bear testimony to the extent of production and the stage of development of the technology. Seven Carbon 14 dates indicate that the site was in operation from somewhere between the 2nd century BC to the 4th century AD, a particularly early period for iron production of this scale and quality.

An approach referred to here as ethnotechnology, which is a combination of ethnohistory, ethnography and ethnoarchaeology was used in this research prior to the excavation and ancient historic iron smelting villages were studied in order to discern the obscure iron smelting technology that was practiced in ancient Sri Lanka.