

W.M.A.A. KARUNARATNE <sup>60</sup>

### *Kultur und Bergbau - Geschichte der Verhüttung in Sri Lanka/Ceylon*

In den buddhistischen Tempeln des frühen Sri Lanka wurden im Unterricht die Fächer Religion, Medizin, Bergbau und Hüttenkunde gelehrt, die in den sogenannten „*ola-leaf books*“ beschrieben werden, von denen das „*Vaijayanira-Tantraya*“ das „*ola-leaf*“ book ist, das den Bergarbeitern und Metallurgen Anleitungen zum Verhüttungsprozess von Erzen gab, da Gold, Kupfer, Arsen etc. auch im Rahmen der Medizin verwendet wurden. Dieses Wissen wurde von einer Generation zur nächsten weitergegeben. Das von den Arbeitern geschmolzene Metall ging auch in den Staatsschatz des Königs über. Da im Zuge archäologischer Erdarbeiten Schmelzöfen und Schmelztiegel gefunden wurden, stellte man fest, dass die Erzgewinnung kontinuierlich bis zum Einsetzen der britischen Herrschaft im Jahr 1815 praktiziert wurde.

### *Cultural and Mining - Metallurgical History of Sri Lanka*

The most significant landmark of the country is the introduction of Buddhism in the 3<sup>rd</sup> century B.C. by the Indian Emperor ASOKA. The Buddhist temples thus became the center of learning. The curriculum included religion, medicine, mining and metallurgical techniques. These were written on the leaves of Palmyrah (*Borrassus flabdifera*) using a metal stylus. Later they were called “*ola-leaf books*”. The *Vaijayanira-Tantraya* is the “*ola-leaf book*” were used by the miners and metallurgists which describes the mining and metallurgical techniques used by the ancient Sri Lanka’s. There are several “*ola-leaf*” books, written for various disciplines of medicine, by ancient Sri Lanka’s doctors. Some of the metals used in medicine are gold, copper, iron, arsenic etc. As mineral ore contains impurities it was also advised to get rid off the impurities before using them as medicine. The equipment to be used and the purification for different metallic ore are also mentioned in these “*ola-leaf*” books. Most of these “*ola-leaf*” books are well preserved in ancient Buddhist temples, museums, libraries and archives. Some of these “*ola-leaf*” books are now translated into English and Sinhalese because most of the books were written in Sanskrit.

The metal miners of ancient Sri Lanka had their villages in close proximity of the metal mining sites. The villages were named after the metal that was being mined. The villages are named as Gold Valley. Copper Village etc. to remember such mineral ore for the future generation. The younger miners were trained by the more experienced seniors on different fields by of work. These techniques were passed from generation to generation. The principal service of the miners was to supply the metal, smelted by them to the ancient King’s treasury. Metals were then distributed among the different classes of metallurgists to make various types of objects. eg. Copper smith, Gold smith, Iron smith etc. The objects were made of various metals, furnaces and crucible used for smelting metallic ore which were found during archaeological excavations since the 3<sup>rd</sup> century B.C. The archaeological records show that metal mining was continuously done by the ancient Sri Lanka’s until the Britains established their control all over the island in 1815 A.D. Above mentioned, the historical and archaeological evidence shows that metal mining had been established at least since the 3<sup>rd</sup> century B.C. in Sri Lanka. These techniques were passed from generation to generation by the ancient Sri Lanka’s until the British period.

This study shows the ancient Sri Lanka’s knew the techniques of identifying mineral ore by using their physical properties. Also they knew which techniques were the best to be used to extract different metals from mineral ore for metallurgical and medical purposes. This study confirms that Sri Lanka is an idel “*laboratory*” to study ancient mining and metallurgical techniques since it had possessed a wealth of literary and archaeological information on different historical times.

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<sup>60</sup> Adresse des Verfassers/adress of the author: W.M.A.A. KARUNARATNE, University of Peradeniya , Department of Geology, No. 5, Piligalla Road, Koshinna, Geliyoia, Sri Lanka  
email [npadeniya@yahoo.co.uk](mailto:npadeniya@yahoo.co.uk)

