# BOOK REVIEWS

**LATERITES - CONCEPT, GEOLOGY, MORPHOLOGY AND CHEMISTRY** - Compiled by G.J.J. Aleva, Edited by D. Creutzberg, Published by International Soil Reference and Information Centre (ISRIC), Wageningen - The Netherlands, 1994, 169p.

This reference book was published within the framework of the International Interdisciplinary Laterite Reference Collection (CORLAT) project. This is an experiment to provide a multidisciplinary summary of the essential features of laterites, including their definition, formation and destruction, their appearance in the field, and terminology required for their description.

The main content of the present reference book is divided into 9 chapters other than the postscript, glossary, references, annexes, author index, charts and several colour plates etc. In the first Introduction chapter, importance of laterites and its interdisciplinary use is described based on extensive literature survey and highlighting the main objective of the book so as to promote international uniformity in the terminology used to describe laterites. In Chapter 2, the laterites are described and defined providing details on origin of name, historical description, definition, classification and nomenclature and age of formation of these deposits. The influence of parent rock characteristics on laterite composition was clearly brought-out and correlation between parent rock versus laterite composition is shown.

The Individual units of the regolith are described in Chapter 3 besides important aspects of zoning and profile development in laterite deposits. This chapter has an important table presenting a recent version of the concept of the typical laterite-saprolite formation based on several suggestions by group of authors.

In Chapter 4, the mappable laterite unit and its field appearance are described with a typical profile which is model or abstraction developed by the knowledgeable field scientists to illustrate the essential characteristics of the multitude of profiles under study; it may be far removed from a naturally occurring profile in its lack of details. Various terminologies such as carapace, cuirasse, ferricrete, alcrete and lateritic residuum are properly distinguished and explained. At the end of this chapter a standard form for the laterite profile description is proposed, which is quite useful in systematic study of any laterite deposit. Examples of laterite profiles - illustrating the great variation in laterite profiles present in nature are given in Chapter 5. This mainly includes laterite profiles of India (developed on khondalites, basalts and granitic rocks), Western Australia (mainly illustrate the laterite profiles of intricate mixture of residual, erosional and depositional regimes present in this area), Suriname (typical profiles of the Bakhuis mountain and coastal plain bauxite deposits) and Brazil. In the next Chapter 6, the cyclic nature of the weathering processes and laterite formation are described with particular reference to their effectiveness in a humid tropical climate.

Charts are presented to illustrate world-wide fluctuation in climate and changes in average sea level. It is further shown with world-wide examples that the intensity and the duration of lateritization processes is mirrored in the thickness of profile formed and completeness of the mineral transformations.

Chapters 7 and 8 would be of interest to many as they describe importance of laterites for agriculturists, civil engineers, geologists, geomorphologists, mining and process engineers. The regional approach for the description of laterites in the field (mapping and formation description), sampling from field to laboratory, chemical/mineralogical analysis

and interpretation and analysis of data are systematically dealt based on world-wide experience of scientists. Suggestions for further research are given in Chapter 9.

This reference book may serve as basic guidelines for systematically describing and analysing Indian laterites. The book is recommended for geologists, geomorphologists, soil scientists, civil and mining engineers working in the field of laterites.

*Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC) Nagpur - 440 023.*

A.K. NANDI

**GEO KARNATAKA - MYSORE GEOLOGICAL DEPARTMENT CENTENARY VOLUME 1994,** B.M. Ravindra and N. Ranganathan (Editors). Published by Karnataka Assistant Geologists' Association, Department of Mines and Geology, 16/4, S.P. Complex, Lal Bagh Road, Bangalore - 560 027. 438 pages, 108 illustrations. Rs. 400/- (Hard Bound) Rs. 300/- (Paper back)

Hundred years represent a momentous period in the history of any organisation. The erstwhile Mysore Geological Department, later redesignated as the Department of Mines and Geology, consequent upon the reorganisation of the State in the year 1956, was founded in the year 1894. During this period, the Department, nursed by dedicated workers, carved out a niche in the annals of Archaean geological studies in India. The present Volume has been brought out to commemorate the Centenary of this well known State Geological Organisation. It may, however, cause a surprise that such a Centenary Volume has been brought out not by the Department whose Centenary it commemorates but by the Karnataka Assistant Geologists' Association - a pointer to the steep decline in the glory of once formidable scientific body. The volume is rightly dedicated to Dr. B.P. Radhakrishna, the last of the titans of the Department of Mines and Geology of Karnataka.

The volume contains thirtythree papers covering a wide spectrum of geological topics of Karnataka which represent one of the most intensely investigated Archaean terranes in the world. "The pioneers of Mysore Geology" is a reproduction from Geology of Karnataka, published by the Geological Society of India. In this, Radhakrishna reminscences on the great contribution made by the stalwarts of the past who laid the firm foundation for geological thoughts in this part of the ancient Peninsular terrane. The geological map of Mysore is a testimony to the meticulous care with which the pioneers covered the ground.

Ramakrishnan in his article highlights the unique aspect of Dharwar Craton which displays geological features that are characteristic of similar ancient terranes of other continents. It is a comprehensive review of the geological status of the craton emphasising the western and eastern divisions and the diversity of supracrustal belts. Janardhan reviews the geochemical aspects of the Sargur rocks. Divakar Rao has presented a synthesis of available data on gneisses, granites and alkali plutons of South Indian shield. Friend reviews the gneiss-granite-charnockite relationship in the Dharwar Craton with an emphasis on the need for unravelling of the polyphase magmatic history of the Peninsular Gneissic Complex and of the many superimposed tectono-metamorphic events. Chadwick discusses the geology, structure and evolution of Dharwar basin in Western Karnataka. Srinivasan and Naha dwell on the Archaean sedimentation in the Dharwar Craton. Manjunatha and Harry present an account of the Geology of Western Coastal Karnataka. Ananth Iyer discusses the metamorphic identity of various Archaean geological units of Karnataka Craton. The significance of fluid inclusion studies in relation to metamorphic rocks and ore deposits in Karnataka is covered by Srikantappa.