

## BOOK REVIEW

### **GEOMORPHOLOGY AND LANDFORMS: ILLUSTRATIONS FROM THE HIMACHAL HIMALAYA** by O.N. Bhargava, Sanjay Kumbkarni and A.D. Ahluwalia.

Technical Publications, 15/19 Kalidas Road, Dehradun - 248 001, 2010. Pages: 212;

While illustrated, glossy Coffee Table books depicting Indian architecture, historical sites, touristic and religious spots are freely available at major book stores, a pictorial book introducing the readers to the exciting world of the geological landforms in the world's loftiest mountain Himalayas is only now being added to this list. This book on geomorphology and landforms is a timely addition to the list of well illustrated manuals for trekkers, explorers, nature lovers and professional geologists engaged in geoscientific studies in the Himalayas.

In spite of a wide range of hard core geological and stratigraphic information included in the Chapter 1 of this book, authors have displayed their humility in announcing that the book is 'not for professional geoscientists'. I however think otherwise. This is for the first time a concise and scholarly account of geology of the Himachal Himalaya under one cover.

Himalayan geoscientists will find substantial, quality data sets for their professional use. Emphasizing the vast gap in sedimentation between Lower/Middle Cambrian and early Paleocene in the terrain that now constitutes the present day Lesser Himalaya, is very significant for paleo-environmental reconstructions. Land like situation during this time span suggests long period of fluvial activity in this fossilized terrain. This will now prompt new researchers to look for tell tale evidence of pre-Paleocene river valley deposits which have so far escaped identification by the field geologists and sedimentologists.

The exciting story of the episodic rise of the Himalayan mountain chain has been explained in simple words and sentences, driving home a crucial point that the Himalayas are geologically young mountains. However, a chronological description in a tabular form with approximate dates would have been more appropriate and instructive for non-geologist readers. By introducing the 'piggy-back' concept in explaining the evolution of the post-Eocene Himalayan landforms, authors have made it easy for the un-initiated readers to assimilate and appreciate the slowness of the geomorphic evolutionary processes.

In Chapter 2, an excellent overview of the glaciogenic processes has been presented with appropriate explanations as to how and why they formed, and how and why do they

vanished from time to time. With excellent photographs, the chapter acts as a guide for the tourists, trekkers and a new breed of environmentalists concerned with global warming. In Chapter 3, we find scholarly explanations for variable shapes of the river valleys, multitude of drainage patterns, spectacular deviations from their flow paths and generation of unusual fluvial landforms. With 32+ photographs we have answers to all these questions. Chapter 4 describes the creation and demise of Himachal lakes with the help of several sketches and photographs. How a nature lover will approach and visit these beautiful Himachal spots has been explained in these pages. Chapter 5 and 6 with 36 photographs unfolds the vagaries of wind, rain and frost and explains as to how these natural agencies affect the plain and simple rock strata as well as folded and distorted rock masses and produce interesting photogenic features on the land surface. The concept of 'neotectonism' has been briefly introduced. In Chapter 7, readers have been asked to appreciate mountains, rivers, lakes, mineral springs and mineral deposits as natural assets with full realization that some of these may prove to be hazardous through tectonic activities, seismic shocks, landslides and mining activities.

I would have preferred to have this book free from literature citations so that a clean, simple, illustrated, landform depicting book would have adored our coffee table. In the case of present style of 'selective citations' where many relevant references have been overlooked, some criticism is inevitable. The glossary at the end of the book is very useful for appreciating the origin of certain local terms and names.

I am impressed with the contents and the general get up of the book and strongly recommend it for use by mountain trekkers, nature lovers, book collectors, professional earth scientists working in the Himalayas and budding geomorphologists deriving inspiration for hiking to these 'difficult to reach' sites, taking some time off from their computer based modeling.

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