

**Geological and Geo-Environmental Processes on Earth.** Edited by Arun Kumar Shandilya, Vinod Kumar Singh, Suresh Chandra Bhatt and Chandra Shekhar Dubey. Published by Springer Nature Singapore Pte Ltd., 324 pages.

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The restless Earth has always been influenced by geological and geo-environmental processes since its origin. The interplay of magmatic, tectono-metamorphic and metallogenic processes has been instrumental since Archean time and were responsible to evolve oceanic and continental crust. Other side the geo-environmental problems are posing great threat to environment and socio-economic status of the society. The chapters stating both the themes are discussed in the book. The book under review dedicated to late Professor Prem Swarup Saklani is divided into two sections; (i) Geological Processes, (ii) Geo-Environmental Processes.

The Geological section containing eleven chapters offers the scientific knowledge on geodynamic evolution of Earth's crust and portrays the role of tectonic, metamorphic, geochemical and geochronological analysis in the evolution of continental and oceanic crust. The first chapter presented by Kuznetsov et al. deals the structural, tectonic and geochronological fragment of the composite Bashkir anticlinorium of the Southern Urals and providing data set of U-Pb age, Hf-isotope and trace-elements contents of detrital zircons from the upper Ordovician sandstones of the northern part of the Uraltau uplift. In the second chapter, the Precambrian impact structures of the Kola-Karelian region of east Baltic shield is discussed in detail by Kaulina and others. Slabunov and Singh describes the comparative study of crustal evolution of the Bundelkhand craton and other cratons of Indian shield in chapter III. Rao and Nora provide the seismic evidences in understanding the mechanism of geological processes of dynamic planet earth in Chapter IV. Chapter V explores the structural control of shear zones on gold-quartz-sulphide mineralization of auriferous reefs of Hutti gold mine of India is nicely presented by Sangurmath.

A synthesis of Indian rare-earth deposits hosted in various geological formations are advocated by Yamuna Singh in Chapter VI. Malviya et al. present the analysis of major, trace with rare earth elements and platinum-group element geochemistry of Western Bastar craton of India and are of view that the IPGE minerals (Ir, Ru) enriched chromite were evolved in back arc basins in supra-subduction tectonic setting (Chapter VII). In chapter VIII, the metamorphic stages of the central Bundelkhand greenstone complex of central India are discussed by Sibelev et al. Further in chapter nine three tectono stratigraphic terranes in Bundelkhand craton of India were explained by Singh et

al. Bhatt and Singh present the tectonic evolution of Babina-Prithvipur crustal shear zones of central Bundelkhand terrane in chapter ten and pointed out that Neoproterozoic E-W shear zone preserving mylonitic foliation and stretching lineation was evolved in syn-tectonic stage. In chapter eleven Banerji discussed the evolution of Dudhmania shear zone based on micro fabric study of mylonites and interpreted its existence by manifestation on satellite imageries.

The Geo-Environmental section containing nine chapters, provides information of seismic hazards, ground water contamination and applications of remote sensing, GIS and SRTM data for evaluation of morphometric and morphotectonics of river basins. The first chapter by Rai and Nayak synthesizes the ambient noise and multi-channel surface wave phase data to assess the vulnerability of seismic hazard in the eastern coastline of India. Alam et al. critically discuss the geotectonic control on arsenic contamination of aquifers in the world in chapter 2. Further Alam presented the role of tectonic and structural control on the geothermal systems across the world with demonstrative examples in the next chapter. Bhatt and other researchers have done remarkable work on morphometric and morphotectonic analysis of the Jamini, Sindh, Rohni and upper Pahuj basins of central India in the next four chapters. They infer that the Bundelkhand cratonic rivers in central India are elongated, structurally controlled, less susceptible to erosion with dominant mature stage and exhibits major tectonic control in NE-SW and E-W directions. The eighth chapter by Ghute and Babar deals the morphotectonic study of Kayadhu river basin in Maharashtra, India and they interpret that the geomorphic indices show positive markers of tectonic control on river network. In the last contribution, Negi et al. pointed out that the six landslides measured along the Nandprayag and Gopeshwar transect in Uttarakh and were increased by the excessive influence of successive road cutting, heavy rainfall, lithology, geological structures, and slope instability.

The articles presented in this edited volume are praise worthy and offers wide perspective on geodynamic, tectonics and petrogenesis aspects of the earth's crust and geo-environmental problems. Since the book is dedicated to eminent Himalayan geoscientist late Professor Prem Swarup Saklani, it should have contained few articles on Himalayan tectonics. Despite this constrain the book has scholarly articles and would be beneficial to scientists, researchers, academicians, planners, and graduate and post-graduate students.