

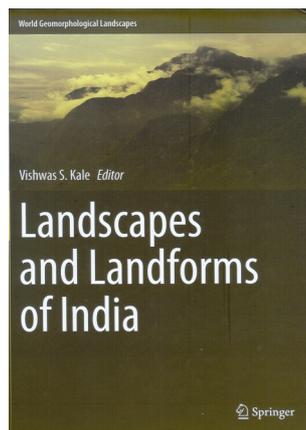
among others. The authors argue that conventional methods of evaluation of interventions need to be replaced by newer paradigms and methods, many of which are in the process of being tried out. This chapter is an essential read.

I close this book review with mention of an article that I believe addresses all individuals involved in public health and public health research: 'Translating evidence into population health improvement: strategies and barriers' by Steven Woolf *et al.* There is no public health researcher I know who does not believe or hope that his/her work will ultimately impact policy. Unfortunately, this is most often not the case. This article written in an easily readable style, while drawing on a large body of literature sets the stage with a simple fact – 'key questions chosen by investigators and funders may not always align with the information priorities of decision makers, nor are the findings always presented in a form that is useful for or relevant to the decisions at hand'. This, I believe is sage advice for those in public health, who chase research publications as an end in itself and believe that translation is an organic process that naturally ensues. The authors offer four suggestions for success: 'research that is responsive to user needs, an understanding of the decision-making environment, effective stakeholder agreement, and strategic communication'. A clear lesson is that researchers cannot be closeted in their ivory towers – they will need to move out, strategize, network and acquire new skills.

I found the absence of any articles on infectious diseases disconcerting, given that we have far from won these battles as evidenced by the ongoing Ebola outbreak in Western Africa (three new cases in Liberia, at the time of writing this review), and the disturbing reports of increased antibiotic resistance worldwide. These will no doubt be dealt with in the future. As a reader and researcher, despite some misgivings that I have voiced, I found that this volume in the tradition of its predecessors continues to educate, and to challenge us to think, reflect and act.

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Landscapes and Landforms of India. Vishwas S. Kale (ed.). Springer Dordrecht, Heidelberg, 2014. xiii + 271 pages. Price: €99,99.

This book is the third volume in the *World Geomorphological Landscapes* book series published by Springer under the scientific patronage of the International Association of Geomorphologists (IAG). It portrays the immense geomorphic variety of the Indian subcontinent with straightforward descriptions and copious illustrations. The main goal, as outlined in the Preface, is to highlight the significance of geomorphology in understanding the landscape; thus, an emphasis on the processes of formation, preservation and heritage value of landforms is apparent as one peruses through the pages of this book. It has been partitioned into sections ensuring a smooth reading, commencing with an overview of the factors controlling landscape development, and concluding with the cultural and tourism significance of landscapes. The book, in my opinion, is an outstanding compilation of geomorphic information on the various morphotectonic provinces of India and the development of distinct landforms therein, evolved under the influence of past and present climates. The editor, Vishwas Kale, deserves all the credit for putting together the contributions from several authors to assimilate information from diverse landscapes in the Indian subcontinent.

The contents of this book are divided into four parts. The physical environment and geomorphic history comprises part I, whereas the details of the major geomorphic provinces are given in part II. In part III, distinct landscapes and landforms from within various provinces are

described, while part IV focuses on the geoheritage and geotourism aspects.

Part I contains a prologue on the physiography and landscape evolution of the Indian subcontinent, which sets a background for understanding how the landforms have taken shape through time and the factors that have actually controlled their existence. The three chapters provide a lithological, tectonic and climatic context to the geomorphic set-up in India. The chapter on 'Geological and tectonic framework of India: providing context to geomorphologic development' by Tandon *et al.*, is a crisp account of the geomorphological evolution of the Indian subcontinent into orogens, cratons and basins in the light of geological and tectonic processes during different eras. This is followed by an up-to-date overview of the Indian monsoon and its variability through time, also discussing the regional response to global forcings and the associated heterogeneities by Singhvi and Krishnan in the chapter entitled 'Past and present climate of India'. The last contribution in this section is 'Geomorphic history and landscapes of India' by Kale, which delves into the geomorphic manifestations of the earth processes and a brief introduction to the major geomorphic provinces of India. Overall, this section, through the description of the geological, tectonic and climate-change processes from Archaean to Quaternary time-frame, provides a platform for the discussion on the resultant geomorphic provinces in the subcontinent. This forms part II of the book, where the major geomorphic provinces of India, viz. the Himalaya, the alluvial landscape of the Ganges, the Peninsula, the Thar and the coastal landscape have been elaborately described. These chapters contain colossal information that is supported by concerted synthesis and well-illustrated



This landscape in Ladakh preserves some of the finest examples of alluvial fans and moraines of great antiquity.

evidences on the spatial and temporal evolution of the geomorphic provinces. 'Himalayan landscapes of India' by Owen touches upon the dynamism of the Himalaya of northern India and the emergence of the impressive landforms therein. Also discussed here is the concept of the feedbacks that set in due to the interaction of earth processes resulting into such a dynamic landscape. The landscape of the Indus–Ganga–Brahmaputra alluvial plains has been described by Sinha and Tandon in the following chapter focusing on the landform development and river processes that have resulted into avulsive drainage shifts. In chapter 3, Kale and Vaidhyadnan discuss the gaping landscapes of the Indian Peninsula and describe the whole variety of landforms characterizing vivid rock terrains with an array of photographs depicting gorges and plateaus, caves and temples. Chapter 4 entitled 'The Thar or the Great Indian Sand Desert' by Amal Kar, introduces the reader to the sandy landscapes of deserts. Well illustrated, the chapter discusses the interaction between fluvial and aeolian processes with climatic fluctuations in the evolution of the present landforms in the province. The coastal processes and landforms of India are described in the last chapter of this section by Mukhopadhyay and Karisiddaiah. It gives a glimpse of the rock-based, sediment-based and coral-based landforms exposed along the east and the west coasts of India. At the end of an exhaustive reading through this section, one will definitely have a better understanding of the geomorphic processes that have been involved in the various stages of landscape change in these provinces. I appreciate that all the authors have highlighted the major concerns and issues of human influence on these geomorphic systems in recent times, bringing in the geomorphic dimension to future planning of land resources.

Part III 'Landforms and landscapes', forms the core of this book and introduces the reader to a plethora of unique landforms scattered throughout the geographical extent of the Indian subcontinent. In this section, 18 unique landforms ranging from glaciers to Rann and caves to archipelagos, have been described by authors from different countries. The first chapter by Bhutiyani elaborates on the Siachen Glacier, the second longest

glacier outside the polar regions. The erosional and depositional features of Siachen have been documented and explained with reference to late Quaternary glaciation history. Following this is a contribution by Juyal on the high-altitude cold desert of Ladakh, which highlights the intricate role of the glacial, cryogenic, fluvial, aeolian and mass wasting processes in sculpting the present-day landscape. 'The vale of Kashmir: landform evolution and processes' by Ganjoo showcases the geomorphic significance and scenic value of the Kashmir valley with special emphasis on the fluvio-lacustrine, fluvial and aeolian processes involved in the deposition of Karewa sediments since the Neogene. Succeeding the chapters on Himalayan landscape, is the chapter on 'Duns: intermontane basins in the Himalayan Frontal Zone' by Tandon and Singh, describing the controls exercised by structural and tectonic forcings on the formation of these duns during the Quaternary. 'The Chambal badlands' by Joshi discusses the issues of the evolution and expansion of the Badlands along the Chambal River in the context of strengthened SW monsoon during early Holocene. Another fascinating landform, the Kosi Megafan, has been detailed by Sinha wherein, the characteristics, morphology and hydrologic regime have been briefly described. In the next chapter, Starkel and Sarkar give an account of the landform development, evolutionary history and present-day processes active in the Sikkim–Darjeeling Himalaya. Drainage evolution of one of the largest braided rivers, the Brahmaputra in Assam, has been fairly well discussed by Sharma. The landscape of Meghalaya Plateau is the focus of the next chapter by Prokop, while the salient features of the Sunderbans and the Ganga–Brahmaputra Delta have been brought out by Rogers and Goodbred Jr. in yet another chapter. Concise account on karst features and related landform diversity is given by Narayana *et al.*, in the chapter entitled 'The spectacular Belum and Borra caves of Eastern India'. The distinct granite terrain of the Indian Peninsula finds detailed evaluation in the chapter on 'Granite landforms of the Indian cratons' by Gunnell. Apart from the evolution of the landforms, the chapter also highlights the economic and cultural links of the granite landscapes.

Further, Ray in his narrative on 'The Andaman archipelago' describes the coastal, erosional, tectonic and volcanic landforms, and discusses the current view on their origin and evolution. The chapter 'Teri red sands, Tamil Nadu' by Jayangondaperumal throws some light on the deposition, reddening and evolution of the conspicuous red sands observed along the southeast Tamil Nadu coast. The most common Deccan Trap country features are the Tablelands and Mesas which are widely prevalent in central India. Kale in his contribution 'The laterite-capped Panchgani Tableland, Deccan Traps', discusses the significance of differential erosion and the stages involved in the formation of these features. One of the few hypervelocity impact craters in the world, the Lonar Crater, is seen carved out in the Deccan Basaltic Province in Maharashtra. Details on the morphology, geology, chronology and origin of the Lonar Crater have been presented by Bodas and Sen in the chapter 'The Lonar Crater: the best preserved impact crater in the basaltic terrain'. The concluding chapters of part III describe the saline landscapes of western India. The discussions by Juyal on 'The Great Rann of Kachchh: the largest saline marshland of India' and by Sinha on 'The Sambhar Lake: the largest saline lake in north-western India', particularly deal with the progression of these features in context to the climate, tectonic and sea-level changes.

To conclude, in part IV 'Geoheritage and geotourism', the editor provides a glimpse of the geomorphic sites in India that are of cultural and tourism interest emphasizing that these landscapes are important for both geo-science studies and public interest. The information on such outstanding landscapes has been supported by marvellous photographs that would impress a scientist and a commoner alike. The book emerges as an 'all-in-all' reference for understanding the geomorphic evolution of the various landscapes in India and should be most welcome in any university library.

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