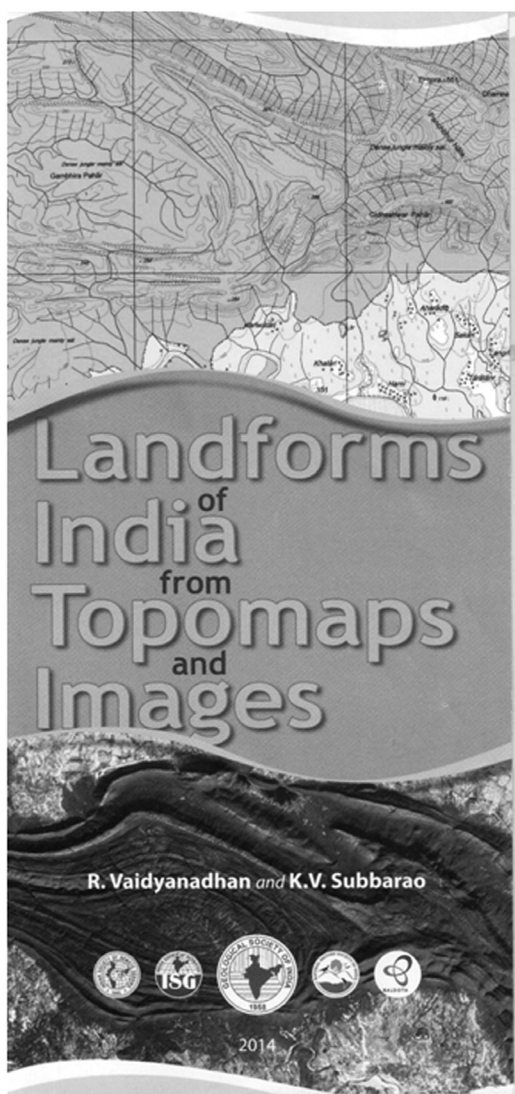


Book Review ... 1

R. Vaidyanadhan and K. V. Subbarao (2014)

Landforms of India from Topomaps and Images, published by the Geological Society of India, Bengaluru, XXVIII+136 p., price IRS 3200/-



The Atlas under review is a marvel of photography and book production, very logically conceived, thoughtfully designed and very deftly executed. In brief, it is a comparative presentation of topographical sheets of SOI and the satellite images of one and the same area on the scale of 1:50,000. A closer look will reveal that the authors have dedicated themselves to not only instruct the students in the interpretation of satellite images and toposheets, but also demonstrated how the different facets of landforms appear in the three dimensional photograph. To this end, they have inserted in the beginning a list of restricted and unrestricted sheets with their location (p. XXVII), some idea about the representation of relief in the topomaps with the help of colours, commonly used conventional symbols and even instructions for interpretation of the maps and images (p. XIX), followed by 'how the landscape presented in a specific toposheet appears in a photograph, in a satellite image, or a digital elevation model (DEM)'

The closing pages are rich with contents of great interest, like 'geological time scale', the 'how to go about' procuring the toposheets and an elaborate glossary with occasional illustrative sketches. Let me hasten to add, this is not just the meaning of unfamiliar vernacular words. The glossary here is the definition of geomorphic terms

and landforms. This small geomorphic thesaurus has defined 350 features; including some unfamiliar regional terms like 'bhil', 'bhabar' or a 'bayou'.

The indexing of the physical features, giving the page number of a specific feature, grouped into categories like 'structural features' such as fault scarp, or 'features associated with glaciations' like a cirque or a hanging valley, or 'coastal features' like beach ridge or headland done with great care would be really of great help to the students.

Toposheets and Images – The sixty toposheets and the corresponding images represent diverse areas with widely different geomorphic processes and landforms. Some thirty-two of these maps are unrestricted (marked by green dots), where contours and other details are given, whereas in the restricted maps (marked by red dots) contours are not given.

A pair, a toposheet on the even page and the corresponding image on the odd page, is so presented as to be visually comparable. The toposheet, on 1:50,000 scale, is only a part of 15'x 15' area, though on the same scale; the images are on a slightly smaller scale, perhaps so designed to accommodate the written text. On the bottom of every toposheet is a photograph not representing or corresponding to the terrain visible on the toposheet, but independent of it, but representing familiar features as those appearing in the toposheet. These photographs are very appealing, though texturally anachronous, are a great help to a student appreciating the visual appeal of a landform. On the opposite odd page are the images, on a slightly smaller scale. On the top of this page are the identity specifics of the toposheet, like serial no., SOI no., state

and district and a general categorisation of a broader landscape like a plain, a delta, a mountain or a plateau and also the number of the imagery.

The most significant part of the exercise are the brief notes, appended to each pair at the bottom of the imagery. These notes have two parts: 1. Physiographic features (why physiographic features?) which is a list of all the specific geomorphic features, specific to the area of the map/image, geology in one word like pre-Cambrian granite or Quaternary sediments, and 2. notable feature given on the right containing a short interpretative text including the process involved.

The landforms observed on the toposheet and verified with the imageries, are mentioned in the note with their location in the toposheet (e.g. cliff (A2, A3)) facing west on the toposheet 47E/10, serial no. 11, page 22).

Since the images, unlike the toposheets, are the digital images from the satellites and don't carry any other details, the authors have imprinted on every satellite image, tectonic features like faults and fractures besides place names, heights, names of rivers and mountains.

In quite a few pairs (a toposheet and an imagery), the azimuthal orientation of one does not correspond with the other; this is not technically inconvenience with a reader has to mentally turn one of them 90° to establish a correspondence. Secondly, the font size of reference letters and numerals of the grid to ascertain the location is rather small one has to look for 'A' or '3'. They could have been made bold to be spotted immediately.

This review does not find it easy to assess the value of this publication as an instructional or learning material for the beginners. To point out, from the toposheet, a geomorphic feature may not be adequate without any comment on the choice of the sheets. One would like to see at least one parallel of latitude and one longitudinal value on the map, to be able to roughly imagine the location of the map. The interpretation of a toposheet is often based on the colour, conventional features and above all alignment and spacing of the contours. It often requires a field study to make the interpretation more convincing. In the present work, the features are identified on the toposheet and their location given with reference to the grid. A knowledge of the terrain may enable a student or an observer to spot the features on the toposheet, but the interpretation of geomorphic features including geo-tectonic features like strike ridges or plunging folds or unconformity exclusively from the toposheet is not easy, and may even prove evasive.

The images have a different set of conditions that govern their texture and colour composite, not the least of which the season may change the landscape. The imprinting of place names and faults, fractures and thrust faults is no doubt helpful, but its comparison with a geological map would be far more instructive than just a topomap.

The Atlas is a valuable tool for identifying and interpretation of geomorphic and geo-tectonic features, but these have to be supplemented, at least in the early stages of a student's study of landforms with field identification and some acquaintance with geological maps. The Atlas, a type of its own, is a magnificent contribution to the existing cartographic tools for interpretation of landforms, and a comparative presentation, a glossary giving the definition of geomorphic terms, and the photographs, line diagrams and block diagrams at the bottom of the topomaps, make it all more valuable. The photographs both of landscapes like those of Palani Hills, Sivasamudram falls or Vellivakam beach (Kerala), or of Zaskar valley (Himalayas), or Kalsubai Hills from Maharashtra and several others are a visual delight. The reviewer would like authors to enhance the scope of the short write-up 'Representation of Relief' in the topomap in the next edition, which he is sure the present volume is certain to undergo.

The Atlas, 'Landforms of India from Topomaps and Images', is highly recommended, and every college and university department should possess a copy for their carto-lab and the book should find a place in all college and university libraries.

K. R. Dikshit

