

many other patterns need detailed studies for an understanding of their formation mechanism and environment.

Sundaram et al. will, in all probability, hold to their views. One does not wish to lock horns with them on any of these issues, nor does one expect a sharp rejoinder for argument's sake. It is, however, hoped that the readers will view aeolian bedform research in proper perspective. Our understanding of the aeolian processes and bedforms are still very imperfect, but the directions must not be clouded.

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### BOOK REVIEWS

**HYDROGEOLOGICAL ATLAS OF ORISSA**, (1995), Government of India, Central Groundwater Board, Southeastern Region, Bhubaneshwar.

The principal objective of a service organization like the Central Groundwater Board (CGWB) is to provide geoscientific information, maps and other data to support the development and management of the Nation's groundwater resources. We are glad that the Board is bringing out Hydrogeological Atlases of the different States of the Indian Union.

Geological and hydrogeological maps are the foundation for gaining an understanding of our land, mineral and water resources. They summarize a wealth of information gathered by a large number of scientists and make it available for user agencies. All such attempts at providing information of value should therefore be welcomed. We trust the Central Groundwater Board will accelerate the process of providing more and more hydrogeological information in graphic form in the years to come. The availability of maps is sure to revive interest in the development

of groundwater resources of the State. According to the CGWB only 8% of the available groundwater resources has been utilized. This emphasizes the urgent need for harnessing the available resources for increasing food production, especially in the drought-prone areas.

Since all development work starts at the village and taluk level, vital information on physiography, drainage, rainfall, geology, soils, land use patterns, extent of land lying fallow, distribution and density of groundwater structures, water quality - all these should be furnished in a manner that can be readily absorbed by the farmer who is the ultimate beneficiary. Land use map (Plate IV) as now published does not provide the type of information that is necessary for planning. More important would be a map showing the distribution of the different categories of land and their extent in the different districts of the State.

When rapid development of groundwater is taking place, it is incumbent on the authorities to provide more up to date information. Outdated information will not serve any useful purpose. Plate X does not satisfactorily bring out the intensity of groundwater development in the different regions of the State. Drought prone areas are no doubt indicated in Plate VI. These districts also appear to be the least developed so far as groundwater resources are concerned (see Groundwater Potential map - Plate XIV). Obviously these districts require immediate attention. Larger scale maps of these districts showing clearly regions suited for groundwater development are necessary. Maps on scale of 1:2,000,000 scale can at best give only a general synoptic view but have little direct utilitarian value to the ultimate user. Since basic information is collected at the field level, it should be possible to provide detailed maps for end users. Modern practice is to develop digital Atlases that give information in requisite detail to non-geoscientists and also answer specific questions with the help of user friendly programmes. If this end is kept in view, the Atlases and thematic maps can be a means of transferring scientific knowledge to the large majority of the farming community, and thereby promote better land management practices and wiser utilization of groundwater resources.

Preparation of hydrogeological maps on larger and larger scales incorporating a wealth of geoscientific data should therefore form the core activity of the Central Groundwater Board. Their task should not end with the publication of regional maps. More important is to see the data collected by them is communicated effectively to the user agencies.

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### **MINERAL AND GROUNDWATER RESOURCES OF VIDARBHA (1996)**

Eds. N. K. Mohabey, L. G. Gwalani and D. M. Mohabey. Golden Jubilee Symposium Volume, Dept. of Geology, Nagpur University, Nagpur, 324 pages.

This volume brought out on the occasion of the Golden Jubilee Celebrations of the Department of Geology, Nagpur University, contains the text of 31 papers dealing with geology, mineral and groundwater resources of the Vidarbha region.

The volume comprises an Introduction by the Editors followed by 21 papers under the theme 'Mineral Resources', 5 on 'Groundwater Potential and 3 on 'Geoenvironmental Appraisal' of Vidarbha region.

A perusal of the volume gives a good idea about the Vidarbha region of Maharashtra State which is geologically very interesting as it exposes rock formations of all ages from Late-Archaeon to Quaternary. It is rich in mineral resources and is well known for significant produc-