

in parts of the Ahmednagar district, Maharashtra by A.K. Chatterjee.

Geophysical Exploration: S.V.G. Krishna Rao and H.M. Ramachandra on an update of airborne geophysical surveys carried out by GSI; aeromagnetic anomaly interpretation and correlation with geological features of central India by H.M. Ramachandra et al.; geophysical signatures of Mn deposits in different geological environments by S.G. Gaonkar et al.; application of remote sensing techniques in targeting Mn studies over Deccan Trap covered area of Central India by K. Venkata Rao et al. and crustal seismic studies in understanding the collision and subduction tectonics of the Indian continent by P. R. Reddy.

Palaeontology and Palaeoenvironment: Quaternary mammals of central India by S. Biswas and A. Sonakia; dinosaur eggs and dung by D.M. Mohabey and S.K. Tandon.

Groundwater: Endeavour of GSI in groundwater resource exploration by P.K. Guharoy and R.K. Roy.

Drilling: Geothermal drilling practices by B.M. Prasad.

Analytical Techniques: NAA and role of REE in studying crustal rocks by R.S. Bains et al. and role of instrumental analysis in mineral exploration by V.M. Parate and D.G. Marate.

General: Role of Geology in National Development by P.K.B. Chakravorty; Needs and Expectations of Universities for pursuing National Development by D.B. Yedekar and Geoscientific approach for development of rural economy by M. Sinha et al.

Careful reading of these papers, dealing with factual

information and new trends/ideas for mineral exploration, enables a person conversant with and keeps abreast of the multidisciplinary work of GSI, mainly in central India, and a few sister organizations.

This publication is edited by a committee comprising 10 officers of GSI, CR. A few avoidable minor flaws in the volume are as follows: lack of 'abstract' and 'sectional headings' as well as missing titles for tables and figures in a few papers; very small font size of letters in some figures; typographic/composing errors, even in title, e.g., TH for Th, MO for Mo, CU for Cu etc., and lack of contrast in the reproduction of both field and laboratory photographs. The photographs in the papers could have been better printed on art paper, preferably in colour like the four on and inside cover pages. Last but not the least, is the less-systematic arrangement of 61 papers, which seems as per the seniority/position of author(s) and instead they could have been listed under different sections for easy comprehension and better focusing.

In spite of the above, this volume, which is an outcome of the efforts of S.S. Kanwar, Anupendu Gupta, K.G. Bhoskar and their dedicated associates in CR, GSI, is a welcome publication from GSI due to its comprehensive multidisciplinary presentations, especially on central India and mineral exploration. It is useful for a wide spectrum of geoscientists, in both exploration agencies and academic institutions, including post-graduate students and research scholars. This publication with 704 pages, including a two page author index, is very reasonably priced and is recommended for purchase by all geology departments and for personal libraries of geoscientists.

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PROCEEDINGS OF GEOMATICS 2002 ON "I.T. ENABLED SPATIAL DATA SERVICES" Edited by S.M. Ramasamy, C.J. Kumanan and Baldev Sahai, 2002, Centre for Remote Sensing, Bharathidasan University, Tiruchirapalli - 620 023, 360p.

This is the technical proceedings of the conference held at Tiruchirapalli during September 18-20, 2002, hosted by Centre for Remote Sensing (CERS), Bharathidasan University, Tiruchirapalli in collaboration with the Indian Society of Geomatics (ISG) under GEOMATICS 2002. Geomatics is the omnibus term to denote the amalgamation

of multiple disciplines – Remote Sensing, Image Processing, GPS, Digital Cartography, GIS, Data Base Management, Statistics etc. Indian Society of Geomatics was formed by all those who work in the disciplines falling under the Geomatics. The objective of this consortium is to amalgamate the concepts and ideas so that the technology

can be put to use in balanced management of natural, cultural, ecological and electronic governance resources

The book is divided into seven sections. Invited lectures (4), Mineral and Hydrocarbon Exploration (4), Hill/Urban Area Planning (11), Special Plenary session (1), Water Resource Management (14), Technology trends in Geomatics (8), and Disaster Management (10)

The paper by A K S Gopalan (invited lecture) on Natural Resources Information System is an excellent contribution emphasizing quality benchmarks and transparent and easy access mechanism in natural resource management through IT. Shanta Sheela Nair's (an administrator) is a nice presentation on the role of GIS in water management with the example of Kaapottanar watershed water resource management project. Based on the study, 15 artificial recharge structures have been constructed in the micro watersheds for sustainable drinking water development. Identification of 13000 locations for recharge structures and proposed Water Resource Atlas on 1:50000 scale to be made available to district offices in the digital format (in collaboration with UNICEF) is an achievement worthy of praise. GRAM++ software suite is an offshoot of an UNDP project on local level development planning is another example of the indigenous contribution to IT field.

D S Mitra's paper on Hydrocarbon Exploration lacks the subheading exploration in the article. It discusses GIS in hydrocarbon exploitation. It is just superior querying that makes the maps intelligent maps or are there examples where field geological map could not solve problems of regional analysis and where intelligent maps could? The top map on page 38 is of poor quality. R Mani's paper is crisp and pointed. Geomatics in urban planning by Ajai and Pathan is an example where GIS is practically used in case of Ahmedabad and Indore. O M Murali's paper is on integration of GIS with RS and Meteorology in identifying the heat islands. On page 74 it was mentioned that heat island study was carried out in certain cities. Visakhapatnam which is not included in the list is shown to have 0.6°C. Anjana Vyas's paper on Property Tax in Ahmedabad Municipal Corporation not only highlights effort of AMC in preparing electronic database but also suggests efficient methods to improve the present situation. Thillagovindarajan and Sivaraman do not explain the role of IT in the integration of space observation and EM profiling in recharging aquifers.

Natarajan and Kallollikar in their paper bring out the role of the GIS in groundwater quality management. Groundwater quality map of Tamil Nadu with identification of high fluoride and low fluoride zones and also the EC and

TDS zoning. It is also interesting to note that higher salinity in Tanjavur-Nagapattinam is along an east-west tectonic element (map on p 178).

Study by Sridhar et al on Upper Kodavanar River basin is good piece of work with bearing on rural population. It identifies 57 villages out of 108 as deficit category.

The paper by G Ramalingam, V T Muthu and Asima Chaudhuri, GSI, Chennai on "Geoscientific database management of GSI with particular reference to Geoinformatics Project, Chennai" is an attempt to give an account of the revolution that is taking place in GSI to go digital in information interchange.

The introduction clearly says that the geoinformatics project was launched for betterment of the common man and academicians, and for other user agencies. It would be more useful to common man and particularly the academician if the paper indicates where the data pertaining to the degree sheets 58A, I and J is available and also in what format the soft copies of the unpublished reports are available (Word or PDF or any other format). Data pertaining to how many reports are available in the electronic format and metadata of these reports, if presented would have made the paper more effective.

The paper by S Subash and Arjun Padaki on "Earthquake Disaster Information Management System" is a brilliant theoretical model. It would be certainly a contribution if it presents the details of the number of records it has in its database and how many analyses have been made in aiding administration in which areas of earthquake disaster management. While P M Udani's paper is full of lists, the paper of Rashpal Kor and Amod Kumar is a good study to visualize, analyse and index avalanches using GIS identifying most of the avalanches between 30 and 39 degrees.

There has been an effort to bring the developments in the data acquisition and analysis in different fields. A good attempt has been made to generate papers with good quality. But in many, the figures require appreciable improvement. Probably some of the figures and pictures were meant to be brought out as coloured ones but were printed in black and white. On the whole the publication contains a wealth of information useful to all those engaged in Geomatics and deserves a place in the libraries of all such institutions.

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