

Brief write-up on S&T (Mines) completed projects

Project Title: Large scale digital database creation of Bauxite and Laterite deposits of Maharashtra State using Geo-informatics technology in collaboration with Maharashtra Remote Sensing Application Centre, (MRSAC), Nagpur & Geological Survey of India (C R), Nagpur [S& T, Ministry of Mines, Gol]

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Objective:

- Creation of digital database on Bauxite and Laterite deposits of Maharashtra related to geology, geomorphology & technological characterization by using GIS and remote sensing technology
- Use of modern geo-informatics technology in the era of lateritic bauxite deposits/mines for environmental management and sustainable development

Background:

Till date, Geological Survey of India (GSI) & other organisations have evaluated / characterised bauxite & laterite deposits mainly from geological and chemical point of view. **However, the increasing demand of the raw minerals and its management has created a need to develop a digital database along with the technological information of individual deposits useful for aluminium industries.** The attribute information collected for geotechnical information of the laterite and bauxite deposits when integrated with the GIS database, in spatial domain will provide a new perspective, vital for the bauxite alumina industry.

Hence the above project was undertaken for evaluation of laterite and bauxite deposits of Maharashtra State on district wise basis, in association with the geo-referenced cadastral maps and high resolution satellite imageries so that a ready reference is available to the industry and end users. **The project signifies the unified effort of three domain specific organization namely JNARDDC, GSI and MRSAC.**

Outcome:

- The outcome of the project is the **generation of exhaustive and comprehensive digital database of laterite and bauxite deposits in geospatial domain.** Multiple unique outputs like GeoPDF, KML, 3D offline HTML and GIS projects have been generated.
- The added advantage is that the **procedures and methods can be replicated for other region/states such as Chhattisgarh, Eastern ghat, Western ghat and Gujarat** which are bestowed with the laterite and bauxite deposits.
- Geo-informatics technology can effectively be used to combine information such as cadastral boundaries, geomorphology, resources, pre-field investigation

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perception, identification of prospective deposits/ area, demarcation of rock/ ore bodies, etc. with the geo-technological data

- **Entrepreneurs can identify deposits suitable for metallurgical and non-metallurgical applications.** Cluster of deposits can be used for industrial applications.
- **The Directorate of Geology & Mining (DGM), Govt of Maharashtra has appreciated the work stating that it will attract prospective miners and ease the auction process.**
- **Publication / Workshop**

*“Significance of geo-informatics technology in the evaluation of lateritic bauxite deposits” IBAAS-2018 Binder Vol-VII, pp 30-40: **P G Bhukte**, A S Deshpande, A Agnihori, S N Das, Prem Babu, S P Puttewar, M J Chaddha, G T Daware, S Y Bhange, V M Kale (2018);*

One Week Course on “Remote Sensing for Geological Applications” at National Remote Sensing Centre (NRSC), ISRO, Hyderabad during July 16-20, 2018