

Dr. Manoranjan Mohanty Resume



Dr. Manoranjan Mohanty worked in the Geological Survey of India for thirty-six years in various capacities in major cratonic segments of the country.

Educational Qualification: Dr. Manoranjan Mohanty obtained his B.Sc.(Hons.) degree from Ravenshaw college, Cuttack and M.Sc. (Applied Geology) from IIT, Kharagpur in 1978 and 1980 respectively. He completed Ph.D. on “Geochemistry of the mafic rocks of Aravalli fold belt, Rajasthan” from M.S. Sukhadia University, Udaipur in 1996.

Professional Experience:

1. Geological mapping in 1: 25,000 Scale in critical areas of the Aravalli-Delhi Fold Belts and Mewar Craton, Rajasthan (10 years), Iron ore belts, Singhbhum craton and the Rengali Province (8 years) and in the Meghalaya craton (1 year). Besides supervised geological mapping in the western Dharwar craton, Karnataka (2 years). Spearheaded National Aerogeophysical mapping programme (NAGPM) in 2016.
2. Mineral Exploration for rare metals & REE in Siwana and Jalore granites of Malani Igneous Suite in western Rajasthan (2 years), diamond source rocks in Ong river basin (2 years) in Western Odisha, iron ore in Bonai-Kendujhar belt, Odisha (1 year) and for PGE in Baula - Nuasahi ultramafic Complex, Odisha (1 Year).
3. Imparted training to GSI officers and students of various Universities of India in mineral exploration, geological mapping and structural geology as faculty and Director of Field Training Centers at Baula, Odisha and Chitradurga, Karnataka. Also served as faculty of international trainees under international exchange programme.

Contributions:

1. Explored the crustal evolution processes during the Precambrian through specialised thematic mapping (STM) in critical areas of Proterozoic Aravalli-Delhi Fold belts and Archaean Banded Gneissic Complex of Rajasthan.
2. Made seminal contributions in identifying ophiolite mélangé in Mesoproterozoic Delhi belt with relict blue schist facies metamorphic imprints and retro-arc type volcanic assemblages in Trans-Aravalli basins (Punagarh-Sindreth basins) which opened new areas of research in Wilson Cycle type crustal evolutionary processes during Precambrian.
3. Identified for the first time dismembered greenstone assemblages within Archaean Banded gneissic complex, identified brittle-ductile dislocation zones (Bans Dislocation Zone) delimiting Palaeoproterozoic Aravalli belt and resolving the stratigraphic problem by identifying the significance of conglomerate horizons in it.
4. His work in Singhbhum craton - mobile belt (Eastern Ghat Mobile belt) interface led to the understanding of exhumation process of the granulite terrane and its effect on the stable craton.

On the basis of field, petrography and geochemistry he established that Pal Laharha granite is the product of partial melting of the craton at mid-crustal level.

5. Reported anomalous REE values in Siwana peralkaline granites and associated trachytes for the first time in 1983-84 which has been substantiated by recent exploration programmes for REE leading to the establishment of Siwana granite and trachyte as a major REE deposit in India.

6. His work on the structural control of iron ore mineralisation in the famous *Horse-shoe syncline* of Bonai-Kendujhar in Odisha led to the discovery of many iron ore deposits within the Koira valley areas.

7. His approach led to the discovery, delineation and estimation of 1.58 million tonnes of PGE resources with average grade of 2.68 g/t at 0.5 g/t cut-off in Bangur opencast mining areas of Odisha Mining Corporation forming the southern extension of Baula-Nuasahi ultramafic complex in 2010-11.

8. Early retrieval and documentation of meteorite fragments (chondritic) from the meteorite shower in coastal Odisha on 23rd Sept., 2003

Organisational Experience:

1. Served as National coordinator for NAGM Programme in 2016-18
2. Member of the Technical & Cost Committee(TCC), National Mineral Exploration Trust(NMET) during 2015-18 and 2019-21.
3. Member of the Executive Council, Geological Society of India (2016-2019)
4. Serving as Jt. Secretary, Society of Geoscientists and Allied Technologists (SGAT), Odisha (2025-28).
5. Served as Jt. Secretary (2018-20), Secretary (2020-2024) and Vice-president (2024-2026) of Institution of Geoscientists, Odisha (IGO)
6. Serving as Member Accreditation Committee for Accreditation of Exploration Agencies (AEA) in Mineral sector (2026-28), Quality Council of India.

Award and Accolades:

1. Conferred with “National Geoscience Award-2012” by Govt. of India for discovery of PGE resources in Boula Ultramafic Complex, Odisha
2. Selected as a member of the High-level delegation of Govt. of India to Australia in 2017 to oversee the automation in mining industries.
3. Participated as a member of the Indian delegation in International Geological Congress - 2016 at Cape Town, South Africa.

Books Authored:

1. Geology of Rajasthan (1995) published by Geological Society of India, Bangalore.
2. Geology of Odisha (2022) published by Geological Society of India, Bangalore.
3. Guest Editor of Spl. Volume (on PGE) volume 68 (Part 2 & 3), 2014, Indian Journal of Geoscience with seventeen relevant papers on various aspects PGE exploration in India.

Research Publications:

1. Authored/co-authored 50 research papers published in peer reviewed National and International Journals.
2. Submitted 25 Unpublished Field Season Project Reports of Geological Survey of India pertaining to geological mapping (19) and mineral exploration (6).
3. Supervised one research student as Co-guide leading to the award of Ph.D. by Utkal University in 2018.
4. Presently serving as a Co-guide to a research student pursuing for Ph.D. in F.M. University, Odisha.