OBITUARY

Madan Lal Jhanwar
(1932 - 2020)

Dr. Madan Lal Jhanwar, former Director, Geological Survey of India and an eminent geoscientist breathed his last on 31st July 2020 at Jaipur, Rajasthan after a brief illness, deeply mourned by his wife Smt. Nirmala, son Dr. Nitin, daughter in law, grandson, granddaughter, and an extended family of friends, colleagues and admirers. His demise has left a void in the arena of geosciences particularly environmental science of the country.

Dr. Jhanwar was born on 15th July 1932. He did his Masters in Geology (MSc Geology) from the University of Rajasthan, Udaipur in the year 1955. After post-graduation, he served as lecturer in University of Rajasthan, Udaipur for about two years before joining Geological Survey of India in 1958. Thus, started a dazzling career spanning more than five decades which blossomed as an environmental scientist. In GSI he was introduced to photogeology and remote sensing in 1959. Subsequently he extensively utilized aerial photos and landsat imageries for interpretation of geology and mineral exploration, particularly pre-Cambrians in Rajasthan, Cuddappas in Andhra Pradesh and Himalayan Geology in Arunachal Pradesh. He was the first Indian geologist to avail the Netherland Government Fellowship to attend post-graduate diploma course at ITC, Netherlands in 1968-69. As an expert photo-geologist he worked on deputation with Algerian National Oil Company, Sonatrach during 1975-81, where he interpreted landsat imageries on 2,50,000 scale delineating deep seated geological structures beneath the thick cover of sand dunes, which were subsequently proved by the geophysical studies. He held the reins of Photogeology and Remote Sensing Division, GSI, Western Region, as Director from 1985 till retirement in 1990.

Post retirement his interests shifted to environment. An Institute of Environment Education and Sustainable Development (IEESD) was established under his Chairmanship. At this Institute, he successfully steered several prestigious assignments addressing environment impact assessment mainly related to the mining areas, and impact of evaluation of water harvesting structures and conservation measures in Rajasthan. The projects were sponsored by various agencies including Department of Science and Technology (GOI), Ministry of Environment, (GOI), International Water Management Institute, Colombo etc. He was considered a crusader for responsible mining practices with due care for well-being of mine workers.

Jhanwar knew that water is at the core of clean environment. Inspired by the famous water warriors of Rajasthan like Rajendra Singh and Late G.D. Agrawal of Tarun Bharat Sangh he took up studies relating to water environment in Rajasthan. His studies in Arwari river basin, Alwar district established that construction of Johads following traditional wisdom and practices succeeded in augmenting water resources, increasing groundwater recharge, revival of dying river Arwari, increasing crop yield and milk production, and in over-all betterment of socio-economic fabric of the villagers. Another Project

study in Pisangan block, Ajmer district (including Pushkar lake) revealed the declining groundwater levels as triggering the reversal of water flow i.e. from Pushkar lake to groundwater resulting in drying up of the holy lake. Large scale aquifer recharge in the lake's catchment was recommended for restoration of the lakes and aquifer systems in addition to other management options. His study highlighted the role of groundwater as key to the environmental sustenance and water security in drought prone Rajasthan, and the relevance of traditional wisdom with inputs of modern science. These are the basic principles of today's campaign for water security, poverty alleviation, 'Swachha Bharat' and 'Atma Nirbhar Bharat', which have triggered a people's movement in the country. These are the basic tenets of Sustainable Development Goals (SDG) of the United Nations launched especially across the third world countries.

Jhanwar was awarded PhD on "Assessment, Planning and Management of Water Resources in Arwari river basin based on Remote Sensing and GIS Techniques in the context of Johads" from the Rajasthan University of Jaipur in 2011. It is a testimony of his relentless campaign for clean environment and water conservation and management. He was always keen to promote environmental studies and awareness, and instituted an award 'Dr. M.L. Jhanwar Award' for 'Best Article on Eco-Friendly Mining' in Mining Engineer's Journal in Mining Engineer's Association of India (MEAI) since 2017.

Being an academic to the core he was Life Member of several scientific associations like Geological Society of India (Bangalore), Mining Engineer's Association of India (Hyderabad), and Indian Remote Sensing Society, Dehradun. He played a major role in organizing a national Seminar on "Changing Geohydrology of Rajasthan" at Bhikampur, Alwar district under the aegis of Tarun Bharat Sangh and Geological Society of India in 2009. Delivering Karanth Endowment Lecture, 2013 in the Geological Society of India he highlighted the rich tradition of water management practices in India, and their relevance in modern times.

As a scientist par excellence playing multiple roles of – a photogeologist, a geologist, an environmental scientist and a water management expert, Dr. Jhanwar was pioneer in various geo-scientific studies with stress on environmental issues. He was a humanist who firmly believed in application of science to the benefit of the society.

In his departure the geoscientific fraternity has lost its peer. His priceless contribution to science and society will ever remain etched in time. Geological Society of India pays homage to this legendary scientist.

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