



2nd PRL-IAPT Dr. Vikram Sarabhai Lecture-2020

Speaker: Dr. R. D. Deshpande
Chairman, Geosciences Division, Physical Research Laboratory, Ahmedabad

Title: “Water Resources of India: Challenges and Solutions”

Time: Monday, 27 January 2020, 18.00 hrs.

Venue: K.R. Ramanathan Auditorium, PRL

Abstract

The contemporary hydrology is faced with great challenges of resolving known problems of water scarcity, anthropogenic pollution, geogenic contamination, dwindling surface flows, inequitable distribution and salinity ingress. The scientific processes underlying these hydrological problems are well understood and can be mitigated by appropriate field engineering measures, treatment technologies, improved water use efficiency and policy interventions. However, these problems have not been completely resolved yet. Beyond these known problems, that we are still grappling with, lies a mind-boggling ignorance about certain aspects of hydrological processes, their natural course and response to perturbing stimuli. In particular, the hydrological response to climate change, engineered interventions and anthropogenic perturbations are not well understood because of longer response time of natural hydrological systems. India is world's largest user of groundwater, the 90% of which is used for agriculture. Agriculture, with its allied sectors, is the largest source of livelihoods in India. About 70 percent of its rural households depend primarily on agriculture for their livelihood. Agriculture sector also accounts for ~18% of total electricity consumption in India and contributes to ~15% of GDP. Thus, There is a complex relationship between water resources, social health and economy of India. Therefore, any undesirable change in hydrology of India needs to be monitored and prevented. Hydrological responses to natural and man-made changes are sluggish and silent. Therefore, adverse hydrological and ecological effects are often noticed only when it is too late and too difficult to recover. This ignorance about

hydrological response poses greatest challenge for scientists, engineers, planners and policy makers, and defines the frontier of research. Modern humans have solved many difficult problems but water is more challenging, because it is not as simple as it seems. Some of the above aspects will be discussed in the talk.

The Speaker



Dr. R D Deshpande is the Chairman of Geosciences Division of Physical Research Laboratory. He has a Ph.D. from the M.S. University of Baroda, Vadodara, based on his isotope hydrology research at PRL. Dr. Deshpande's research is focused on understanding the complex hydro-geological and hydro-meteorological processes using stable and radioactive isotopes as a tracer tool. His research in the field of Isotope Hydrology is well-known in India and abroad. His research is based on numerous wide-spread and exhaustive field campaigns in the country for understanding hydrogeological setup and collection of water samples for isotopic analyses. He has published more than 40 peer reviewed research papers. Dr. Deshpande is nominated as a Mission Expert in Isotope Hydrology by International Atomic Energy Agency (IAEA), Vienna. He is a Member of Research Advisory Committee of National Institute of Hydrology. He has served as a member of the several Expert and Advisory committees of MOWR, MOES and the DST. He is an expert member in the Board of Studies and Research Development Committees of several academic institutions in India. He is a Fellow of the Geological Society of India and the Gujarat Science Academy.

Tea at 17:30 hrs
ALL ARE WELCOME

**Link for Registration (Mandatory) to attend
(PRL Members Need not to Register)**

<https://www.prl.res.in/public/>

Registration by 26.01.2020, 23.59 hrs, for limited seats on first come first serve basis

For NON PRL Visitors, entry will be from Gate no. 3

