



### Contextualising Citizen Science Scope for Hydrological Science in India

On the occasion of Global Citizen Science month, Development Alternatives organised an online webinar titled 'Contextualizing Citizen Science Scope for Hydrological Science in India' on 29 April, 2022. Its aim was to conduct a dialogue on saving water resources through citizen participation. The webinar brought together thought leaders and experts who discussed their strategies, learnings, and the way forward in curating citizen science projects and deliberated on strengthening and sustaining citizen engagement for water resources.

Citizen science, also called civic science or community science, essentially talks about the 'active' participation of the general public in creating new scientific knowledge. In recent times, it has emerged not only as a research tool to collect hydrological data, but also as a medium to foster and promote the spirit of sustainable water management.

Gitika Goswami, Associate Vice President, Development Alternatives moderated the session and welcomed the five speakers – Prof. Basant Maheshwari, Professor - Water, Environment, and Sustainability, Western Sydney University, Penrith, Australia, Dr Grinson George, Senior Programme Specialist (Fisheries), SAARC Agriculture Centre, Dhaka, Bangladesh, Dr Jagdish Krishnaswamy, Dean, School of Environment and Sustainability, Indian Institute for Human Settlements, Bengaluru, India, A R Shivkumar, Former Principal Investigator – Rain Water Harvesting and Principal Scientific Officer, Karnataka State Council for Science and Technology, Indian Institute of Science, and Dr Suryesh K Namdeo, Programme Officer, DST, Centre for Policy Research, Indian Institute of Science, Bengaluru, India and all participants. Dr Ashok Khosla, Chairman, Development Alternatives in his opening remarks mentioned how bird watchers are one of the most commonly seen practitioners of citizen science as they go on collating all pieces of information from their on-ground observations. He went on to conclude that citizen science is very relevant for the making of policies and proper interventions. He remarked that citizens can be much beyond just users of a resource and understand how the ecological systems actually operate.

Prof. Basant Maheshwari explained that solutions often do not work well as people do not have faith in the system. The chances of having a positive outcome increases with citizen science, as people's faith and confidence in the system increases. Prof. Maheshwari, while speaking about the uniqueness of MARVI (Managing Aquifer Recharge and Sustaining Groundwater Use through Village-level Intervention) said that *Bhoojal Jankaars* can correlate rainfall to groundwater depletion. This goes to show the interface between the research team and the community.

Dr Grinson George enlightened the participants about how water color is a major indicator in communicating the quality of water. He also shed light on how by using the Mini Secchi Disc, water quality gets categorised into brown, yellow, green, and blue. As pure water does not possess any kind of color, a water color may provide evidence that there is some form of contamination.

Dr Jagdish Krishnaswamy emphasised how a few researchers cannot monitor a system as complex as that of eco-hydrology. That is where citizen scientists come into play. Locals living next to the resource happen to know more and their knowledge must be respected.

A R Shivkumar also known as Bengaluru's 'Rain Man', remarked that rainwater harvesting programmes/workshops were conducted for plumbers and contractors in Bengaluru. Rainwater harvesting structures were built by NGOs and people have now started maintaining the tanks and rooftops.

Dr Suryesh K Namdeo, Programme Officer, DST, Centre for Policy Research, Indian Institute of Science, Bengaluru, India talked about the importance of citizen science in getting complex scientific experiments done and translated to the ground. People's fascination with science is something scientists can benefit from by figuring out what projects to bring in. Dr Namdeo believes that a Citizen Science Association is needed in countries to act as a resource center for designing and implementing citizen science projects.

Gitika Goswami, the moderator of the session, conducted the Q&A round with the very enthusiastic participants and concluded the session by emphasising on how citizen science is a relatively new term. Citizen science uses the collective strength of communities and the public to identify research questions, collect and analyse data, interpret results, and make new discoveries. She spoke about DA's project with Vidya Bhawan Polytechnic and Danish International Development Agency (DANIDA) Fellowship Centre in Udaipur's Ayad River basin on the same concept.