



### India – EU Jointly Fund PANI Water Project to Tackle Urgent Water Challenges

In recent years, India and Europe have collaborated extensively to enhance and enrich each other's technological and scientific knowledge and management capacities to cope with increasing stress on water resources<sup>i</sup>. In line with this cooperation, European Union, Department of Science and Technology and Department of Biotechnology (Ministry of Science and Technology, Government of India) have funded seven projects<sup>ii</sup> under the EU-India Water Cooperation on Research and Innovation. Photo-irradiation and Adsorption based Novel Innovations for Water-treatment (PANI Water) project is among the list of projects selected for funding under the above mentioned cooperation and the Development Alternatives (DA) Group is an integral part of the PANI Water Project.

PANI-WATER<sup>iii</sup>, a four-year project has 18 partners led by Dr. Kevin McGuigan from RCSI, Ireland and Dr. Rita Dhodapkar from NEERI, Nagpur. The DA Group was represented by Dr. K Vijaya Lakshmi (Vice President) and Dr. Soumen Maity (Assistant Vice President). The project will develop six prototypes out of which five will be deployed in rural and peri-urban areas in India. The field validation of the five technologies, including community engagement and technology integration will be done by the DA Group. The prototypes will be designed to remove Contaminants of Emerging Concerns (CECs) such as pharmaceuticals, personal care products, pesticides and nanoparticles from both drinking water and wastewater. The prototypes for wastewater treatment will consist of (i) a 20,000 L/day multifunctional oxidation reactor, (ii) a 10 L/day photoelectrochemical system, and (iii) a 100 L/day solar photolytic plant. For drinking water, prototypes will consist of (iv) a 300 L/hour filtration, adsorption, and UVC LED system (v) a 20 L transparent jerrycan for solar water disinfection, and (vi) a 2,000 L/day electrocoagulation, oxidation, and disinfection system. These prototypes will be deployed in peri-urban and rural

areas in India. The project team which includes 6 Indian and 12 European partners\* from six countries viz. Ireland, Spain, Italy, Cyprus and United Kingdom will work closely with the communities at the fieldsites, and carry out water quality analyses, health and social impact assessments, and advocate for safe reuse of treated wastewater for irrigation, and preservation of drinking water sources. The technologies developed in the project can find promising application within the agricultural sector, water-demanding businesses (e.g. textile, pharmaceutical), and the Indian water utilities. The project is proposed to be implemented in five states of India – Rajasthan, Bihar, Delhi NCR, Goa and Maharashtra.

The PANI Water project which started from 1<sup>st</sup> February 2019, held its project kick-off meeting on 11<sup>th</sup> and 12<sup>th</sup> February, 2019 at DA Head Quarters in New Delhi, which also hosted the event. The kick-off meeting was aimed to discuss the course of action for the project and enhance the understanding and cooperation between the PANI-Water project team. The DA Group as part of the project team also attended an event at National Institute of Immunology, New Delhi in which the PANI WATER project along with six other projects (INDIA-H2O, LOTUS, PAVITR, PAVITRA GANGA, SARASWATI 2.0, SPRING) participated in the launch event hosted by The Delegation of the European Union to India, the Department of Science & Technology and the Department of Biotechnology on 14<sup>th</sup> February, 2019. Prior to the launch event, the project team also attended India-European Water Partnership (IEWP) event at Indian Habitat Centre on 13<sup>th</sup> February, 2019. The event was aimed to enhance synergy between policy dialogue between India and the EU on water and how research and innovation efforts could facilitate the implementation of the issues identified.

\*The project partners include:

- Royal College of Surgeons in Ireland (RCSI) - Ireland
- National Environmental Engineering Research Institute (NEERI) - India
- University Rey Juan Carlos (URJC) - Spain
- Birla Institute of Technology & Science, Pilani, KK Birla Goa Campus (BITS) - India
- Maynooth University (MU) - Ireland
- Society for Development Alternatives (DEVALT) - India
- Innova SRL (INN) – Italy
- Kwalify Photonics P. Ltd. (KPP) – India
- CIEMAT – Plataforma Solar de Almeria (CIEMAT) – Spain
- Affordable Water Solutions (AWS) - India
- University of Cyprus (UCY) – Cyprus
- University of Ulster (UU) – United Kingdom
- Institute of Technology Sligo (ITS) – Ireland
- AQUASOIL SRL (AQUA) – Italy
- Universita del Salento (UNISAL) – Italy
- New University of Buckinghamshire (BUCKS) – United Kingdom
- University of Santiago de Compostela (USC) – Spain
- Society for Technology and Action for Rural Advancement (TARA) – India

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<sup>i</sup> <https://www.eip-water.eu/india-eu-water-partnership-iewp>

<sup>ii</sup> [https://eeas.europa.eu/delegations/india/58099/eu-india-jointly-fund-seven-research-and-innovation-projects-tune-eur-40-million-tackle-urgent\\_en](https://eeas.europa.eu/delegations/india/58099/eu-india-jointly-fund-seven-research-and-innovation-projects-tune-eur-40-million-tackle-urgent_en)

<sup>iii</sup> <https://sc5.easme-web.eu/?p=820718>