

## SCHOOL OF WATER AND WASTE

### Sustainable Urban Water Management – Challenges and Opportunities in mainstreaming Climate Adaptation

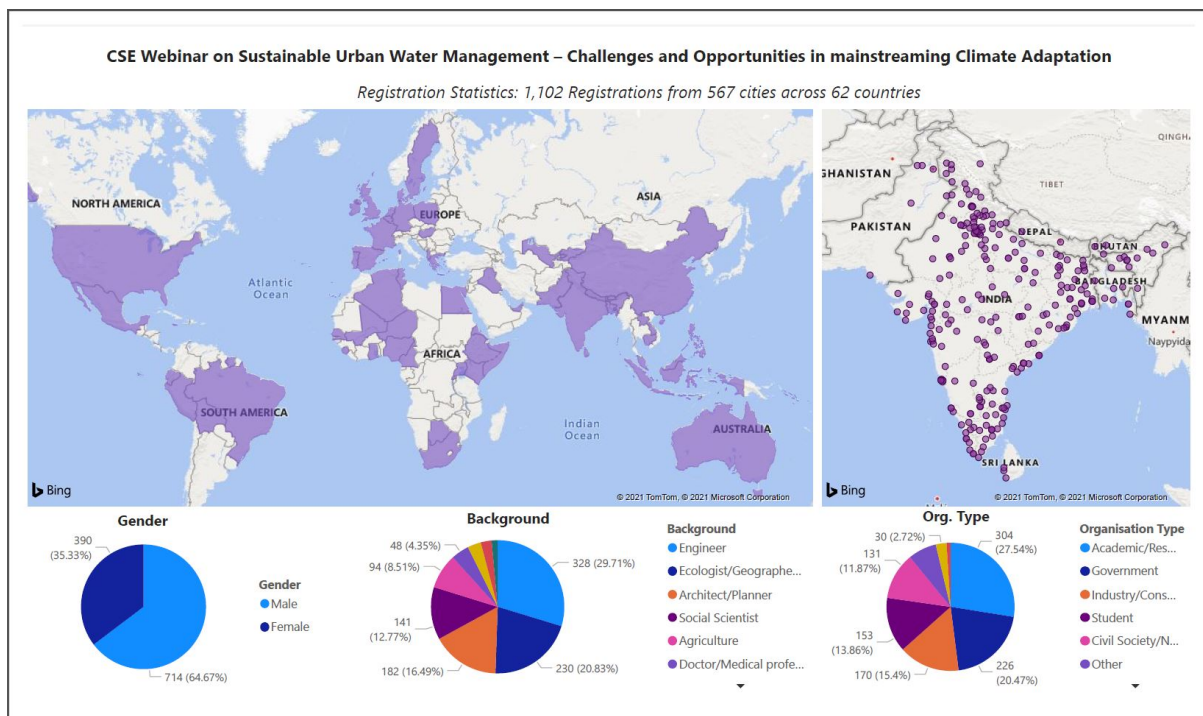
#### Webinar Proceedings: 5<sup>th</sup> March, 2021

The School of Water and Waste (SWW) – AAETI (a unit of CSE) organised a webinar titled ‘Sustainable Urban Water Management – Challenges and Opportunities in mainstreaming Climate Adaptation’, on 5th March, 2021. The webinar was organised in partnership with Alliance for Global Water Adaptation (AGWA), USA, aimed at sensitizing key stakeholders about the need to develop water resilience in cities in wake of climate change.

CSE invited Dr. John Matthews, Executive Director and Co-founder, AGWA (USA) and Dr. Ad Jeuken, Climate Change Adaptation Expert, Deltares (Netherlands) as speakers. Dr. John Zvimba, Research Manager, Water Research Commission (South Africa) and Dr. Ishrat Islam, Bangladesh University of Engineering and Technology (Bangladesh) joined as discussants. Dr. Suresh Kumar Rohilla (Senior Director, CSE) anchored and moderated the webinar.

The webinar was attended by over 1,200 participants from 567 cities across 62 countries. The attendees belonged to diverse fields, including engineers, architects, planners, social scientists, etc. They represented private consultancies, govt. departments, academic institutions, NGOs, etc.

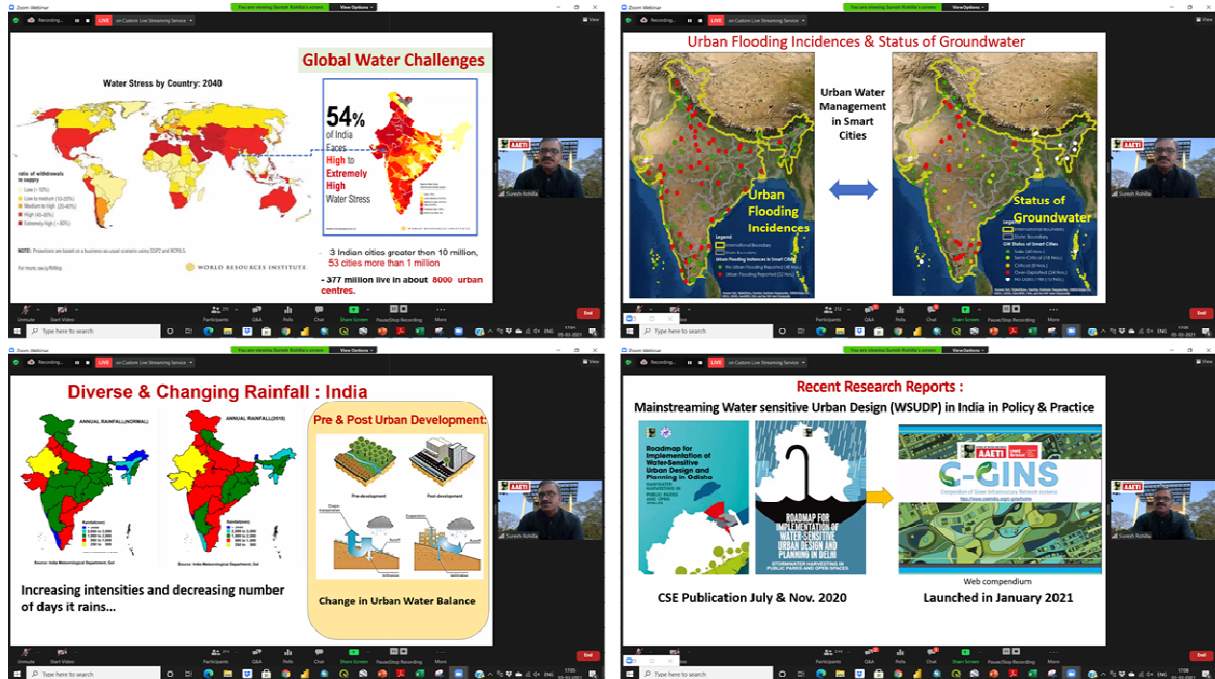
#### Summary of Registrations



Dr. Suresh Kumar Rohilla, CSE kick-started the webinar by introducing CSE and SWW, and the water programme. He set the context by talking about global water challenges, and how the changing climate will aggravate the water issues, especially in the global south. He also shared

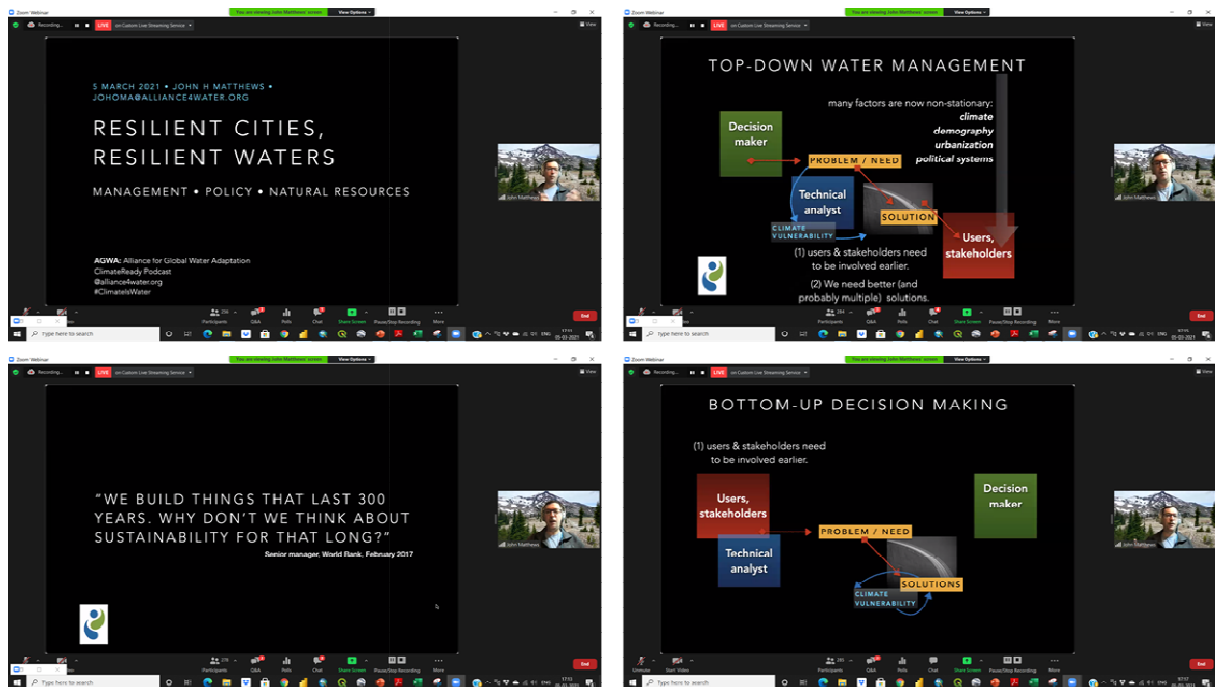
the latest CSE research on status of groundwater table and urban flooding in smart cities in India, and the potential of stormwater harvesting in addressing issues related to urban flooding.

### *Snapshots of Presentation by Dr. Suresh Kumar Rohilla, CSE*



Dr. John Matthews, AGWA shared his research and experience on the emerging approaches to analyse climate risk and develop resilience w.r.t. urban water management, to address flood and drought issues. He discussed the constraints in a top-down water management system, and focussed on how these deficiencies can be addressed in a bottom-up approach. He also stressed upon a structured, uncertainty-tolerant decision-making approach, which can aid in building resilience in the wake of project uncertainties due to climate change. He concluded his presentation with case studies from Lusaka (Zambia), California (USA) and Udon Thani (Thailand) focussing on urban water resilience and linking with quality of life and risk assessment.

## Snapshots of Presentation by Dr. John Matthews, AGWA



Dr. Ad Jeuken, Deltares shared his work on climate risk and vulnerability assessment in Latin America. He shared his case study on improving flood resilience in Guayaquil (Ecuador). He discussed the Climate Risk Informed Decision Analysis (CRIDA) system, implemented in the city to conduct the flood vulnerability analysis and develop strategic responses for various zones. He showcased the modelling parameters considering coastal, commercial and residential zones in the city. The performance metrics presented included water depth on streets, duration of floods, and the spatial extents of the area flooded.

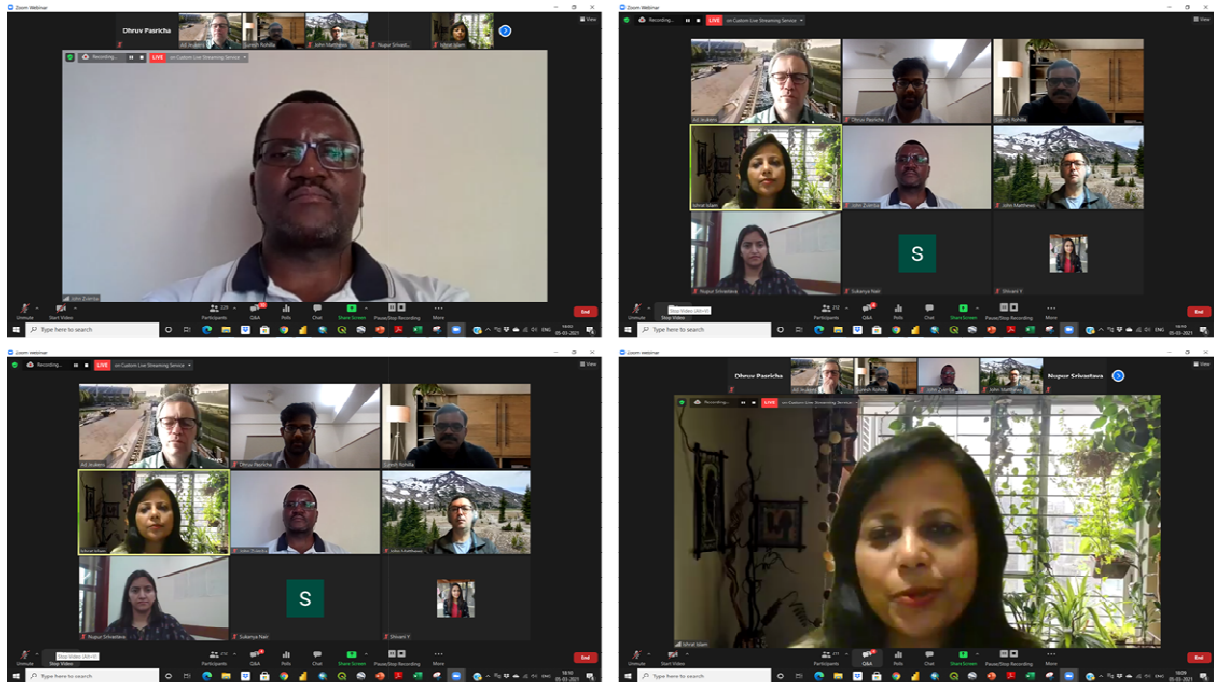
Dr. Jeuken also discussed the social and economic risks, in addition to assessing the calamities due to physical parameters, and identified flood hot-spots for the city. He shared the various plan alternatives developed after undertaking the bottom-up vulnerability assessment, modelled their effectiveness in reducing vulnerability and analysed the various costs and benefits associated with each.

### *Snapshots of Presentation by Dr. Ad Jeuken, Deltares*



After the wonderful presentations by the renowned speakers, Dr. Rohilla invited the discussants to share their views on climate risk and vulnerability in their respective cities. Dr. John Zvimba, WRC shared the risk South Africa faces in the wake of dwindling water resources and frequent drought conditions. He discussed how climate change will be pushing more people into water scarce areas, and focussed in developing local urban water resilience through the principles of circular economy. Dr. Ishrat Islam, BUET shared her experience on how climate change will increase the risk of sea-level rise and urban flooding in the cities of Bangladesh. She deliberated on the importance of reviving and conserving urban lakes and wetlands, as these act as sponges to address issues related to urban flooding rising out of the changing climate. Both the discussants have stressed on the decentralised systems of urban water management to strengthen local resilience in the global south.

### *Snapshots of Presentation from the Panel Discussion*



Following the panel discussion, Dr. Rohilla held the question & answer session where the attendees had put up several questions to the speakers, that centred around the role of community participation in urban water management as an important aspect of developing resilience, role of technology and modelling in understanding climate risks, applicability of these approaches in the global south, and how these can address multi-dimensional issues related to climate adaptation. After the Q&A session, the webinar was concluded with a vote of thanks.