01 July 2021 (Thursday)

4.00pm-5.30pm (SGT) (GMT +8)
Session 4.6 – Social Resilience of Communities to Climate Extremes

Session Chair(s): Tony Wong, CRC for Water Sensitive Cities (Australia)

WaterUP: Empowering Local Communities Through Sustainable Water Management
L. Bingham, D. Hetherington. Arup (United Kingdom)

Community driven, decentralised water management can effectively decrease global water challenges whilst delivering environmental and socioeconomic resilience. Given ~2.4 billion people live with water shortages, educating communities to better manage water resources is critical. Arup-developed software has been used to map and analyse the use of sustainable, traditionally engineered techniques to capture and store seasonal rainfall and recharge aquifers in semi-arid regions. WaterUp is a community engagement project run in partnership between the global consultancy firm Arup and the UK based NGO The Flow Partnership, with support from multiple other charitable and academic organisations. The project focuses on upskilling rural communities, improving their knowledge and understanding of sustainable water resource management techniques and practices. A pioneering language-neutral, digitally enabled educational film for rural communities has been developed. This free and globally accessible film will empower communities to better manage water resources, restore catchments and make meaningful progress towards achieving SDG6.

A Smart Transition To Water Resilient Communities
C. Port, J. Cullis, D. Romain, M. Cobeldick, K. Werksman. Aurecon (Australia)

Record droughts have been experienced by many cities around the world in recent years. This has required communities to make rapid changes in water use to ensure the preservation of water supplies. In each case it has been found that background knowledge of water consumption by the public was low and highlighted the challenge of adapting to a changing climate and the opportunity for further engagement with communities on the contributions they could make towards reducing demand from potable water systems. This paper will look at the experiences of Cape Town, Sydney and Auckland and how the use of smart technology and digital tools has helped engage communities around the challenge of climate change on water supplies, build awareness of water consumption and highlight personalised and tangible ways customers can save water. While this provided customers and communities the opportunity to contribute to the drought response, there is now the opportunity to develop this further in building climate resilience.

Wastewater Reuse Certificates - A Tradeable Permit Mechanism Using IoT, ML, AI, And Blockchain

R. Khemka. World Bank (India)

Conventional environmental regulations, such as command-and-control, have proven inadequate in pollution prevention in emerging economies. As an example, in the Indian state of Maharashtra, no more than 50% of wastewater is treated in even large urban centers. With poor enforcement of wastewater treatment standards and the lack of a business case for reuse, there is little incentive for municipalities and industries to treat and reuse wastewater. In this context, 2030 Water Resources Group of the World Bank aims to accelerate wastewater treatment and support greater reuse through a market-based structure. We have proposed a new tradeable permit entitled Wastewater Reuse Certificates to enable the transfer of credits from over-achieving municipalities and industries, to under-achievers, vis-à-vis reuse targets established through a regulatory process. The certificates are intended to be transacted using immutable distributed ledger technology for issuance, creation of a repository, and trading. The use of blockchain algorithms are resulting in increased transparency, reduced frauds, and smart contracts.

Water Wise Cities of the Future - a summary of highlights from the Water Convention 2021

T. Wong. CRC for Water Sensitive Cities (Australia)

Presenter is an invited speaker. No executive summary is available