

Online International Knowledge Conclave on Green Infrastructure

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The School of Water and Waste - CSE organised the Online International Knowledge Conclave on Green Infrastructure today. This second knowledge conclave is one of the series of activities under the 3-year partnership (2019-22) between CSE - University of West England (UWE) Bristol - an initiative supported Global Challenge Research Fund (GCRF) and International Water Security Network (IWSN) supported by Lloyd Registry. The conclave was attended by over 150 attendees each day, and over 1,100 people watched the event each day using live streaming on Facebook, YouTube and LinkedIn.

Day 2 of the conclave had two sessions, the first session was about successful case studies of green infrastructure projects from Australia, India and Sri Lanka. These case studies highlighted the opportunities and challenges in implementation of nature-based solutions for urban water management at various scales, the various multi-dimensional and long-term benefits of the projects, the importance of stakeholder engagement, and creating an enabling environment in terms of policy, standards and capacity building.

Dr Harry Virahsawmy, Alluvium, Australia presented stormwater management initiatives from Melbourne. He shared the case of City of Melton, which undertook a massive tree-plantation exercise, and used stormwater harvesting techniques along roads and streets for the horticulture needs of these plantations. He also shared the case of a residential neighbourhood, Stamford Park which has implemented green infrastructure solutions at various scales, where the horticulture requirements are met by rain/stormwater run-off. He also discussed various challenges and lessons regarding organisational arrangements, O&M, integration with other services and cost and benefits.

Mohan S Rao, INDE: Integrated Design, India shared his work and experiences of exploring and working in Hampi, focussing on the traditional wisdom of water systems. He talked about the various aspects of decentralised water management, and how various systems for water supply, drainage, wastewater management, and groundwater recharge take place in urban settlements. He shared the various aspects of the landscape, focussing on role of streams, lakes, detention ponds, wells and rivers, and their interaction with rainfall and groundwater flows.

Mayank Mishra, ShiFt Studios, India shared the case study of the unique campus masterplan for IIT Jodhpur, located in an arid area in India. Mr Mishra discussed the approach and concepts applied in the campus design, as a reflection of the climate and hydro-geological regime of the site. He showcased, how a system of swales is designed, along with the natural topography of the site, in order to capture maximum run-off for groundwater recharge and detention ponds for water use. The masterplan also employs decentralised wastewater systems, and the design of various water features are as per the 100-year flood/rainwater levels.

S. Vishwanath, Biome Environmental, India shared his experiences of urban lake and aquifer rejuvenation and management in Bengaluru and their importance as a blue-green infrastructure. He talked about the importance of lakes as green infrastructure, which contribute to pollution abatement, groundwater recharge and mitigation of urban floods; and how effective stakeholder engagement and community participation in lake and aquifer management. He learnings regarding the livelihood approach to lake management and how the blue-green infrastructure solutions can lead to policies and bye-laws.

Dr Tanuja Aryananda, Lanka Rain Water Harvesting Forum, Sri Lanka shared Sri Lanka's journey of mainstreaming roof-top rainwater harvesting in urban areas of Sri Lanka. She talked about how RWH has been mainstreamed by policy and legislation in Sri Lanka, and the role and importance of capacity building of various practitioners for successful implementation of RWH projects.

Dr Vinod Gupta, Space Design Consultants, India shared his experiences of designing various green buildings, including residential and institutional spaces. He showcased the example of the campus masterplan for IIT Gandhinagar, focussing on achieving water balance for the campus. He shared the design ideas, as a response to the climate and site context, and role of green building concepts in developing a water neutral campus.

The second session of Day 2 focussed on the various tools and approaches which are used across the world to mainstream Green Infrastructure in cities. Tools like Water Sensitive Cities Index, BlueHealth Toolkit, PANDa Atlas and WaterFolder, Spatial Planning toolkits, and policy instruments were discussed in detail. These tools provide aid decision-making by providing insights regarding various direct and indirect benefits of green infrastructure, like improved water quality, flood mitigation, digital rainfall atlas, links with public health, and policy, planning and financial instruments to mainstream green infrastructure.

James Ewert, CRCWSC, Australia shared the Water-Sensitive Cities Index tool, developed by CRCWSC, which is a benchmarking tool, which ranks cities on water-sensitivity across 34 indicators. He talked about the methodology of the tool, and its use in shaping urban water management strategies, focussing on various ecosystem services of urban catchments.

Dr James Grellier, University of Exeter, UK shared the BlueHealth Toolkit, which aims to understand the linkages between urban blue infrastructure and public health. The toolkit provides a platform to understand these linkages with spatial attributes, and helps aid decision-making around the quality of blue infrastructure, and its potential as providing a public space for recreation.

Jay Bhagwan, WRC, South Africa talked about the integration of spatial planning policy and practice with Water-Sensitive Urban Design (WSUD), and the importance bottom-up approach and strengthening of local institutions for successful implementation of WSUD strategies. He argued that there are various policy and planning initiatives for WSUD are emerging and exist; however, these need to be integrated and implemented in a comprehensive manner. He advocated that such integration will create a conducive enabling environment for effective implementation.

Dr Pawel Licznar, Retencja, Poland shared his research and project of the Polish National Rainfall Atlas (PANDa), which provides spatial rainfall maps for urban areas of Poland, with an interval of 15 minutes. The information is integral to the design of RWH storage tanks and recharge structures. He also shared the WaterFolder project, which is an online platform to bring together users and practitioners to implement RWH. Users can use google maps to identify area and land cover, and the portal will provide the schematics of the RWH structures which can be implemented in the selected area.

McKenna Davis, Ecologic Institute, Berlin talked about the various policy, planning and financial instruments which have been used in Germany and Poland. She presented a guidance document she co-authored which responds to various gaps in policy and planning. She highlighted a range of policy, planning, and financial instruments relevant for NBS design, implementation and maintenance.

Himansu Sekhar Mishra, Estonian University of Life Sciences presented the BlueHealth Environmental Assessment Tool (BEAT), which is part of the BlueHealth toolkit. He shared the methodology for data collection, and the use of GIS mapping to undertake multi-dimensional analysis of various datasets related to environment, demography and place-making attributes. He also shared the application of the BEAT Tool in various urban settings across Europe, where research concluded that a better quality blue infrastructure in urban areas improved the liveability of the place, and positively impacted the public health of the users.

Extensive discussions were held, where the speakers answered various questions posted by the attendees, on the success of various pilots, and availability of tools to aid decision making. The conclave was closed by a vote of thanks by Dr Suresh Rohilla and Dr Chad Staddon.