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## Poor service delivery, aging infrastructure under the spotlight at UCT's first National Infrastructure Hackathon



Pati Kgomo, the CEO of the Municipal Infrastructure Support Agent.

Photo: Supplied

The University of Cape Town's (UCT) [Department of Civil Engineering](#) recently hosted the first National Infrastructure Hackathon. The hackathon, held under the theme "Constructing Tomorrow: Public Infrastructure Policy Dialogue & Research Excellence", attracted executives from infrastructure departments and waterboards, academic staff, final-year civil engineering students, postgraduate students, municipal engineers, professional associations and private-sector engineering consultants and contractors.

The event was conceptualised as a platform for industry leaders and academics to compare notes and realign the research agenda. In his address, UCT acting Deputy Vice-Chancellor for Research and Internationalisation, Professor Jeff Murugan, stressed the need for evidence-based solutions to public infrastructure challenges facing South Africa, Africa and the world.

The hackathon started with infrastructure executives from state institutions presenting their major challenges. Academics also presented research projects that solve future challenges such as water scarcity. Between the executives and academics, there was an opportunity for professional bodies such as the South African Institute of Civil Engineers (SAICE) and the Institute of Municipal Engineers of South Africa (IMESA) to reflect on the challenges the public sector representatives presented.

### **Poor governance and political oversight**

Chief Executive Officer of the Municipal Infrastructure Support Agent, Pati Kgomo, highlighted the mismatch between tariffs and the repayments of waterboards and Eskom as a reason behind the lack of financial viability of many municipalities.

In her submission, she remarked that "outstanding debt owed to local government has steadily increased over the past few years rising from just under R130 billion at the end of the 2016/17 financial year to just over R230 billion by the end of December 2020. This amount was almost R50 billion higher than the debt recorded in March 2020."

She expressed her excitement in learning that Mukundi Muchothloane, a UCT master's student in the Department of Civil Engineering, is conducting research on the subject of tariff setting under the Urban and Public Infrastructure Research Initiative. She further referred to governance failures and inadequate political oversight as fundamental issues contributing to the rise of dysfunctional municipalities. Her remarks shed light on the critical factors that must be addressed to enhance service delivery and improve infrastructure across the country.

Kgomo also highlighted the issue of the skewed distribution of engineers across municipalities with less than 200 of the 17 000 registered engineers working in local government. This was echoed by both Sekadi Phanyane-Shakane, CEO of SAICE, and Clyde Coen of IMESA. "Remote rural areas are particularly disadvantaged, suffering from inadequate infrastructure and ineffective delivery models," said Kgomo.

As a consulting engineer, Johan Bason lamented the widespread neglect of municipal infrastructure maintenance and repairs in agreement with Bafikile Simelane, the former President of Master Builders SA.

According to Bason, neglecting maintenance undermines service quality, creating a weak link between the services offered and the revenue generated. "Addressing these issues is essential for the sustainable growth and resilience of our communities," he said.

Dr Kenny Mudenda presented research on the maintenance of structures and the reuse of some construction materials to solve the problem.

### **Ageing infrastructure and climate change**

Rand Water Research and Development Manager, Khathutshelo Maumela, said that the entity – the largest water utility in Africa – and many other organisations, including municipalities, are faced with the challenge of dealing with the legacies of the past regarding infrastructure development. “The infrastructure that we have inherited isn’t enough, and we have done little to maintain it, let alone augment it so that it can serve more people,” he said.

Maumela added that climate change was one of the biggest threats that an organisation like Rand Water and all other infrastructure-based organisations faced. He warned that the disasters seen to date may just be a case of scratching the surface compared to what may be seen in the future. In response, Professor Kirsty Carden presented solutions from the Future Water Research Institute, with Professor David Ikumi from the Water Research Group presenting their research on state of the art in wastewater treatment and digital twinning to model pressure differentials along water reticulation networks.

Development finance institutions also attended the hackathon. Thabo Mokwena, manager for infrastructure financing at the African Development Bank, challenged academics and students to partner with finance institutions to conduct research that assists banks in making evidence-based decisions related to infrastructure finance.

Professor Mark Zuidgeest, the head of Civil Engineering Department’s outlined the department’s vision to engage the sector and collaborate within the industry to enhance the student experience while solving societal challenges.

***ENDS***

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