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## **UCT engineering students' work contribute to a municipal infrastructure policy shift**

A group of 38 University of Cape Town (UCT) engineering students worked in virtual teams and built on UCT's input into the Data for Municipal Infrastructure Assets (Data4MIA) initiative.

Each of the nine groups tackled an allocated project in municipal infrastructure, the students analysing and compiling data to drive well-informed decision-making around infrastructure priorities and spending at municipal level.

Earlier this month the groups presented their findings to the project's partners and other stakeholders, including Oxfam South Africa, the South African Local Government Association, the Southern African Asset Management Association, the national Department of Cooperative Governance and Traditional Affairs, and the national Department of Water and Sanitation.

Associate Professor Pieter Levecque – from the Department of Chemical Engineering at UCT and a project driver – and those who attended the virtual presentations were impressed.

"The outstanding work done by the students is contributing to a municipal infrastructure policy shift from just building new, to balancing between new and existing infrastructure," he said. "This new thinking was evident in the most recent budget speech."

Levecque said that the students' work had contributed to the allocation of nearly R750 million for infrastructure asset management planning in the largest conditional infrastructure (Municipal Infrastructure Grant), through a 5% provision.

Municipalities will now also have to submit their asset registers, and this development also builds on this work, he said.

"Everyone had a sense that infrastructure asset management is a priority, but the students' work assisted in getting the data to tell the story of how bad a state municipal infrastructure is in."

The programme ran from 8 December 2020 until the end of February 2021 with cohorts completing their work between January and February 2021. And projects ranged from an

assessment of waste-water treatment technologies on waste plant functionality and compliance to a comprehensive evaluation of the appropriateness of municipal Service Delivery and Budget Implementation plans. One group produced a draft masterplan for the Wild Coast Development Corridor. Another considered whether poor municipal asset management was the result of municipalities' shortcomings or the funding models used.

The initiative is a partnership between UCT's Faculty of Engineering & the Built Environment (EBE), the Municipal Infrastructure Support Agent (MISA) and Engineers Without Borders South Africa (EWB-SA). The project drivers are Associate Professor Levecque and alumnae Lubabalo Luyaba (MISA, UCT Department of Civil Engineering) and Wiebke Toussaint (EWB-SA, UCT Department of Mechanical Engineering).

Luyaba said: "The programme proves that NPOs (EWB-SA), institutions of higher learning (UCT) and government can partner at no cost, for the benefit of society."

The eventual aim is to develop draft policy position papers on these issues, Levecque added.

"We've scaled different projects of bringing community development into the engineering curriculum and [are] excited to see how we can take infrastructure maintenance and the curriculum around that to different universities across the country."

He said that close to 120 students have now participated in this programme. The initiative filled a gap for municipalities, too, because of the shortage of analytical skills at all levels of government.

The project continues and builds on work completed in July 2019 when 19 UCT chemical engineering students spent their winter vacation gathering, processing and digitally capturing critical water and sanitation infrastructure data for the Amathole District Municipality in the Eastern Cape. In December 2019 this was followed by 61 students from the departments of Chemical, Civil and Mechanical Engineering, who extended this work.

With limited resources and municipal data, the exercise stretched their problem-solving and decision-making skills, which forced them to prioritise their tasks, manage the risks and plan their course of action.

**ENDS**

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