

FOG ON TAP

Prof. Jana Olivier and Mayor Gcinikhaya Mpumza in front of the new fog harvesting nets for Cabazana

Image source: Lulamile Feni and the Daily Dispatch



Until recently, Thobeka Siphuthuma, a local resident and mother of four, had been used to walking kilometres with her neighbours to fetch water from the local streams. She said while her husband was away at work she would have to juggle all house chores and also ensure there was enough firewood to prepare food for the evening but, equally important, to make sure there was water for cooking, drinking and to bath her two school-going children every morning.

“From here, the stream we usually go to is about two kilometres away. It is easier to get there as it is downhill but it is very difficult to come up the steep slope to my house with a bucket on my head,” she explained. The erection of the fog water harvesting project has relieved her of a laborious daily task and with the tanks of the fog water close to her home she can easily access water anytime of the day.

During the launching event, which was attended by more than 130 people, Dr Maggi Linington, Executive Dean of CAES, said Unisa prioritised responsive research initiatives that are able to change the lives of ordinary people. “As a university, com-

In Xhosa, fog is *inkungu* and the residents of Cabazana in the Eastern Cape never thought the thick white blanket of clouds that frequently envelops the local mountains could hold answers to their well-documented water shortage problem. That was until the launch of a fog water harvesting project by the College of Agriculture and Environmental Sciences (CAES) in partnership with the Alfred Nzo District Municipality.

munity outreach is not an extra but an important part of the triangle of our key university priorities. We pride ourselves on products that benefit mankind. I would like to urge everyone around here to use this water sparingly so that it benefits everyone,” said Dr Linington.

The project leader, Prof. Jana Olivier, who has more than 20 years of experience in fog water research, said the project in Cabazana was the latest and most efficient system and could yield hundreds of litres of water a day. She said it had been specially designed to be used in rural areas,

to be as cost effective as possible, to use material that was readily available in the areas, and to be suitable for use in areas with no electricity.

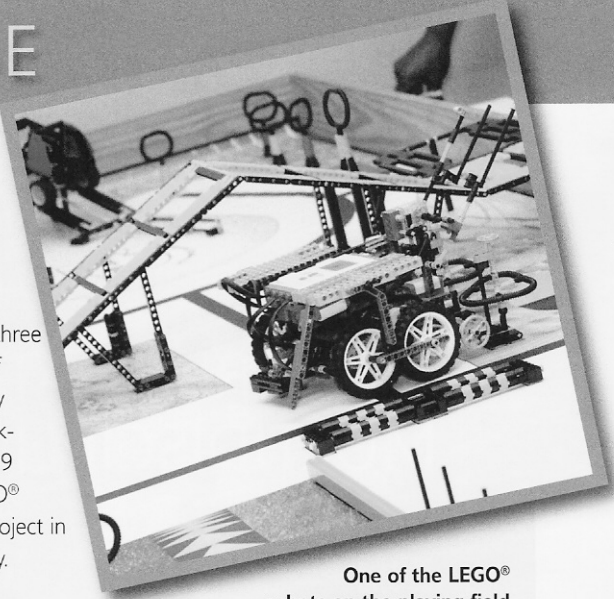
“Our system is very simple to erect and it can yield a lot of water depending on the quantity of fog on a given day. This particular system covers 700 square metres and can yield over 3 000 litres per day. I am happy that the Cabazana community finally has potable water and we trust that they will own it and take care of it this structure,” she said.

Clinton Lelahane (Greensky: Signage installer), Mike Magonare (Unisa producer: Satellite broadcast), Theophellus Ottie (Alfred Nzo District Municipality), Poppie Khoza (CAES marketer), Joseph Sithole (Greensky: Signage installer), and Johleen Mouton (Unisa WIL co-ordinator) celebrating the success of the project



LEARN ENGINEERING THE FUN WAY

Young and energetic learners from three schools sponsored by the College of Science, Engineering and Technology (CSET) gathered at the Unisa's Muckleneuk Campus on 23 October 2009 during the launch of the FIRST LEGO® League Community Engagement Project in Science, Engineering and Technology.



One of the LEGO® robots on the playing field

Addressing the learners from the Tertia King Learning Academy, Tulip Secondary School and Glenstantia Primary School, Prof. Mamokgethi Setati, Executive Dean: CSET, said that this project had been founded to inspire the interest and participation of young people in science and technology. The competition introduces them to the real world of engineering challenges, as by building LEGO®-based robots they learn more about the aspects of designing, building and programming.

The theme for this year's competition is *smart move*. The smart moves robot challenge requires the teams to program a sensor-equipped vehicle (a robot built using a LEGO® Mindstorm programmable controller) to perform a set of tasks in a test environment. These tasks correspond to transportation activities such as gaining access to places, avoiding impacts and traffic jams, and keeping passengers safe.

CSET provides equipment and personnel to mentor and guide team development to help them reach the regional competition. The Gauteng regional competition was held on at the end of October 2009 at the Tshwane University of Technology and Unisa was represented by five teams: Tertia King Learning Academy (three teams – Siyakha Evolution; Siyakha Junior; Siyakha Senior), Tulip Secondary School (1 team – Techno TT) and Glenstantia Primary School (1 team – Techno pi), three of which came out tops!

The Siyakha Junior team, Techno TT from Glenstantia Primary in Pretoria and Siyakha Evolution from the Tertia King Learning Academy in Tembisa participated in the national FIRST LEGO® League Competition in December 2009 at Sci-Bono Centre in Johannesburg. Here the Siyakha Evolution team walked away with the Research Quality award. A total of 87 South African teams competed for the regional FIRST LEGO® League championships and the 26 top teams compete at the National FIRST LEGO® League competition.

For CSET the FIRST LEGO® championships are a fantastic community intervention programme that gives them direct access to future students, helping them on their way to becoming the scientists, engineers and technologists of tomorrow. Children are inspired and motivated about the accessibility, excitement and wonders of science, engineering and technology while demonstrating respect, encouragement, and continued gracious professionalism.

Prof. Mamokgethi Setati explains, "While we at CSET are happy about the performance of our teams, we know that the FIRST LEGO® League is not about winning; it is about developing the learners' skills in problem solving, analytical thinking, research and teamwork whilst having fun. Our message through this is that while science, engineering and technology can be challenging, they are also fun!"

The Executive Mayor of the Alfred Nzo District Municipality, Gcinikhaya Mpumza, said the availability of water will set off self-help initiatives locally. "This project will enable us to diversify and also develop vegetable gardens around here so that unemployed women can fend for their families. While we have a high rate of unemployment in this area, we have been sitting with over 40 percent of water shortage and with this water project we will be able to diversify some of the projects that have been on hold because of water scarcity," said Mr Mpumza.

CAES marketer, Poppie Khoza, and the children of Cabazana marvelling at the miracle of inkungu water

