

Kew Gardens provides climate for agricultural change

May 28 2008

A device to help some of the most impoverished farmers in Africa maximise their crop yields is being tested at London's Kew Gardens.

Developed by engineers at the University of Leeds, the sensor device gathers data on air temperature, humidity, air pressure, light, and soil moisture and temperature – information crucial to making key agricultural decisions about planting, fertilisation, irrigation, pest and disease control and harvesting.

It is being tested by Kew's Diploma students and staff over the next four months in the School of Horticulture's new student vegetable garden at the Royal Botanic Gardens, Kew. The sensors are monitoring conditions around some typical crops to test possible future applications.

The Leeds team has been working with two Kenyan villages to develop the technology as part of the Engineering and Physical Sciences Research Council (EPSRC) Village E-Science for Life (VESEL) project, a collaboration of key research groups in the UK and Kenya. The project aims to apply advanced digital technology to improve quality of life, both through its use in education and to optimise agricultural practices.

“In some areas of Kenya, localised variations in growing conditions can cause severe fluctuations in crop yields. Our part of the VESEL project is about providing the right information at the right time to farmers,” says Professor Jaafar Elmighani from the School of Electronic and

Electrical Engineering. “This means they can use available water more efficiently, minimising wastage and helping to optimise their harvests to feed their families.”

The information is fed back via a wireless network to a central hub, or server, which will be located at the village school, and is then sent to agriculture experts who will provide advice to assist farmers’ decisions. The ongoing data gathered will also feed into agricultural teaching at Kenyan schools, which forms a central part of the education system.

During the tests at Kew, the data collected by the device will be sent back to the University of Leeds, but ultimately, the management of the system will be handed over to the University of Nairobi. “This information will also inform research at the University of Nairobi - and ultimately, we hope, inform agricultural policy in Kenya”, says Professor Elmirghani. “It’s crucial that the work of the project can be sustained long term to benefit future generations.”

“We’re pleased to put these devices through their paces and give feedback to the project. Our students are keen to learn about emerging technologies, especially with such clear sustainability goals as the VESEL project”, says Kew scientist , Rowan Blaik.

The tests are expected to be complete by Autumn 2008, after which time the devices are initially to be trialled in the two Kenyan villages. “We hope that, during 2009 and beyond, the technology will be rolled out to other communities,” says Professor Elmirghani.

Source: University of Leeds

April 2024 from <https://phys.org/news/2008-05-kew-gardens-climate-agricultural.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.