

Makerere develops app to detect chemicals in meat

By Agnes Nantambi

Makerere University College of Computing and Information Sciences (CoCIS), has embarked on a project of developing an application which will help detect toxins in meat.

This is aimed at responding to the challenges of meat contaminants, which are becoming rampant in the country.

According to the principal of the college, Prof. Tonny Oyana, the app will help people take photos of meat using their mobile phones and compare it with the normal meat before buying.

The app follows recent incidents where several tests carried out on meat proved some of Uganda's meat sold at the butchers was being contaminated with chemicals such as Tsunami, which is an insecticide.

Oyana said the new app, once introduced, will save Ugandans from consuming such meat because they will be able to test it using their mobile phones.

He said on top of that app, several innovations have been introduced at the university, which will help the public solve a number of problems.

Daniel Mutembesa, a senior researcher at the Artificial Intelligence and Data Sciences Centre within the college, said several research projects in different domains of agriculture, transport, human epidemiology and spatial temporal markets are being worked on.

"The college, in collaboration with other universities, is working on a new project, which deals in solving gaps experienced in agricultural research. In a place where we have small pools of experts, we use a technique called crowd sourcing to gather



Oyana (right) with Mutembesa explaining how the new technology works using a mobile phone. Picture by Agnes Nantambi

image data, which can be used within the computer vision to differentiate pests and diseases affecting the different crops and animals," he said.

Mutembesa said the app, which can be downloaded onto a mobile phone, can help a farmer to, for instance, identify the diseases of cassava, such as cassava blight, cassava brown streak, cassava green malt and cassava bacterial blight.

He said since many farmers do not have this kind of information, it is a plus that they can have this application on their smartphones to diagnose their crops.

"It gives timely and accurate information about infectious crop diseases. Since it is vital for sustaining yields, both farmers and the Government can devote significant resources to collecting it," Mutembesa said.

BETWEEN THE LINES:

Daniel Mutembesa, a senior researcher, said the innovations are done in collaboration with other universities and with support from different funders.

He observed that this technology can address the problem of labour in carrying out surveys, which tends to always be expensive, slow and inadequate.

"It can be used by more experts to provide real-time information and significantly reduces survey costs," Mutembesa added.

He revealed that under the same project, they also

introduced an application for research scientists, where they can count and quantify the pests and vectors of disease around the country.

"Recording populations is a tedious task, so we developed for them a counting app that helps them take images and the computer programmes points out where they are and pulls them out," he explained.

He said they are also working on using light to diagnose plants before they show symptoms of diseases.

"When you plant a crop and its season is four months, by the time you realise that the disease is four months, you will have lost the crop, but if you diagnose with light within the first week to know whether it has diseases or not, you will have saved the crop," he said.