AWARD

African Women in Agricultural Research and Development

Profile

2014 AWARD Fellow

Devotha Godfrey Nyambo

Position	MSc Student
Institution	Nelson Mandela African Institution of Science and Technology (NMAIST)
Country	Tanzania
BSc	Computer Science, Ruaha University College, 2011
Mentor	Dr. Martin Epafras Kimanya, Acting Dean, School of Computational and Communication Science and Engineering, NMAIST
Research Area	Design and development of an information system to help smallholder farmers improve livestock productivity.

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Devotha Godfrey Nyambo is contributing to the Tanzania Development Vision 2025 for Agriculture with her own vision: to connect every Tanzanian farmer, enabling them to get information and share knowledge via their mobile phones. "Livestock farmers lack the ability to get the information they need, and I want to help change that," she says.

As a master's student at NMAIST, Nyambo is part of a project team that is developing a high-performance computing platform to mobilize livestock data and improve livestock farmers' productivity. This innovative research is being conducted in partnership with Biosciences eastern and central Africa (BecA) and the International Livestock Research Institute, based in Nairobi, Kenya.

"Every farmer in Tanzania has a cell phone, although most don't have smart phones," Nyambo explains. "The good news is that Google has developed a very economical smart phone for only $30. This is quite promising, and we are looking at how we can use them."

The system will collect data from farmers via their mobile phones and from sensors placed beneath their animals' jaws. Farmers will upload daily information about their livestock, such as the quantity of milk produced, the number of animals slaughtered, and the number of stillborn and miscarriages.

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and disease control," says Nyambo, whose role on the student team has been to design the database, user interactions, and information security modeling. "The system will notify farmers of any abnormality or disease detected in their animals, and send reports to other farmers, veterinarians, extension officers, and researchers, as appropriate."

Nyambo is excited by the information system's potential. "When farmers are connected to one another, they improve their farming practices," she states. "Also, it will help them to more easily get quality inputs—feed, medicine, extension services, and so forth." She and her team are currently working with 54 extension officers in the Arusha region.

She is confident that this system will also help decrease the rate of animal deaths, thereby increasing food security and incomes, while helping farmers keep better records. "The farmers are very excited about the project and keen to learn. I love hearing from them that I'm going in the right direction. It gives me a sense of accomplishment and motivates me to continue." With the design component finished, Nyambo is now concentrating on the security aspect of the mobile and web-based applications.

Nyambo and her colleagues are hoping to develop the project into a company. "I want to work more closely with farmers, and delve even deeper into research that will have an impact on their livelihoods," she says.

Nyambo expects to finish her master's by the end of 2014, and wants to continue her education with a PhD. As AWARD Fellow, she hopes to increase her confidence and enhance her innovation skills. "I appreciate the chance to be mentored and attend conferences," she says. "Through AWARD, I want to connect with agricultural scientists so I can create interventions with their specific needs in mind."

Nyambo also plans to be a role model at her institution. "I want to share what I have learned from AWARD, and help colleagues think about how they too can have an impact on our country's agricultural development."