OnePlanet FELLOWSHIP

Building a robust pipeline of scientists leading climate change research in Africa

Candidate Profile

Makungwe Miriam

2020 One Planet Laureate Candidate

Position

PhD Student

Institution

University of Zambia

Country

Zambia

Education

MSc, Integrated Soil Fertility Management, University of Zambia, Zambia

Mentor

Dr. Bridget Bwalya Umar, Senior Lecturer, University of Zambia

Area of research

Spatial variation of soils and land capability for rice production in Zambia.

Makungwe Miriam attributes her work ethic and determination to her paternal grandmother and parents. Her grandmother encouraged her to work hard since childhood. Makungwe lived briefly with her in Nakau village, the Western province of Zambia, where she started school. She later went to live with her parents in Livingstone city and joined a school there. She topped her class. That experience taught her that you could succeed no matter where you start. Her mother was hands-on and shaped Makungwe's approach to life by teaching her that she had to act for things to move. Makungwe's father provided her with educational materials that gave her an edge in her academic performance. Seeing her parents struggle to raise eight children while also catering to the needs of the extended family taught Makungwe that she needed to work hard and make choices that would give her a different life. She was an exceptional student, particularly in mathematics, and she got special encouragement from her teachers owing to her dedication to schoolwork. In high school, one teacher directed her to classes that would lead her to a science career.

Makungwe holds a Bachelor of Science in agriculture and a Masters in Science in integrated soil fertility management, both from the University of Zambia, where she is also pursuing a Ph.D. in soil science. A 2019 Commonwealth split-site scholarship allowed her to spend time at the University of Nottingham in England. She had previously undertaken six months of coursework at the Norwegian University of Life Sciences supported by another scholarship in Norway. She worked for two months with the International Institute of Applied Systems Analysis (IIASA) in Austria, vastly increasing her spatial modeling capacity.

Makungwe's research is on the application of spatial statistical models for the prediction of soil properties. Soil and the way it is used can play an essential role in improving agricultural productivity and reducing climate change. Accurate predictions of soil properties are fundamental because they allow stakeholders to understand the state of soils, how they are changing and the pressure placed upon their quality. The soil maps produced have relevance across various land use applications.

Makungwe's career goal is to be a key player in improving food security and the rural livelihoods of rural communities and African farmers.

High-quality research will enhance soil fertility and generate climate change advice for key stakeholders. "I want my science work to influence policies in my country, and I want to work with smallholder farmers to improve their livelihoods. When I visit farmers, I see myself in the little children walking to school. I also see my

grandmother in the women. Those are the lives I want to change through my work," she states.

The One Planet Fellowship is an avenue through which she will expand her network. She believes that her association with African Women in Agricultural Research and Development (AWARD) will place her in a particular group of achievers. She notes, "The Fellowship will light my candle so that the whole world can see me."

Makungwe's career achievements and association with the One Planet Fellowship earn her institution and community recognition. She is a role model to students whose parents approach her for career guidance for their children. Master's degree students from other universities also are requesting her to review their work. She says that the Fellowship will build on that respect and strengthen her mentoring and grant-seeking skills.

Being a young woman in science poses some unique challenges, particularly in interactions with farmers where cultural beliefs and practices are barriers. Makungwe is strategic in dealing with institutional values and practices that stand in the way of her progress and has always emerged as a winner. These strategies include using the gender card to win scholarships. Being a wife, a mother, and a career woman hasn't been easy, but her husband has been by her side, pushing her to make sure she achieves her objectives.

Makungwe's career goal is to be a key player in improving food security and the rural livelihoods of rural communities and African farmers. She is working on the on the application of spatial statistical models for the prediction of soil properties.

Makungwe Miriam is one of the growing number of candidates selected to participate in the One Planet Fellowship. The One Planet Fellowship is a career development initiative that is building a robust pipeline of highly connected, inter-generational scientists equipped to use a gender lens to help Africa's smallholder farmers cope with climate change. The One Planet Fellowship is funded by the Bill &Melinda Gates Foundation, the BNP Paribas Foundation, the European Union and Canada's International Development Research Centre (IDRC). African Women in Agricultural Research and Development (AWARD) and Agropolis Fondation are jointly implementing the Fellowship.

Endnotes