OnePlanet FELLOWSHIP

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

Candidate Profile

Ikabongo Mukumbuta

2021 One Planet Laureate Candidate

Position

Researcher/Lecturer

Institution

University of Zambia (UNZA), Zambia

Country

Zambia

Education

PhD, Environmental Resources, Hokkaido University, Japan

Mentor

Dr. Victor Shitumbanuma, Senior Lecturer, University of Zambia (UNZA), Zambia

Research Area

Soil and water resources management.

Ikabongo Mukumbuta grew up in a big family and spent his formative years in a rural setting. His mother being a small-scale farmer, took part in various agricultural activities from a young age and learned quite early some of the challenges small-scale farmers face as well as the potential of agriculture to change rural lives. He recalls gaining interest in science during high school.

He did his undergraduate degree in soil science at the University of Zambia and then pursued his master's and PhD in Japan.

"I lived there for five and a half years and got exposed to working with diverse cultures," he says, "It was a good experience with different food and language, but I had to get used to the cold weather and snow!!" All of his degrees are related to soil science and environmental resources. For his post-grad work, he hopes to explore climate-smart agriculture to see "how we can produce more food with few greenhouse gases, and ensure that farmers like my mother adapt to climate change," he says.

Currently working on a project-based at the University of Zambia, Ikabongo is looking at the impact of mining pollution on the environment, particularly on soils and plants, and the effect of pollution on animals.

Apart from keeping busy with research, he teaches undergraduate and master's students part-time.

"I chose to study soil science because it is the foundation for agricultural production," he says. "To grow crops effectively, you have to manage your soil—production problems emanate from problems in the soil."

His main research interest is measuring greenhouse gases (GHGs) from the soil to assess soil GHG mitigation options through sustainable management practices, especially from smallholder farmer fields.

"There are a lot of smallholder farmers in Zambia," he says. "The majority have small pieces of land but account for 60 to 70 percent of the production of maize—it's a source of livelihood for pretty well everyone. To tackle climate change, we must ensure that smallholder farmers adopt sustainable practices."

Ikabongo and a colleague have started a small company to help farmers source inputs and have improved access to markets. "We started working with 40 farmers, and we also train them on sustainable practices related to soil health, and we hope to be able to buy the crops from them," he says.

He is committed to being a leading scientist in climate change. "How can we ensure and increase sustainable productivity? I want to pioneer some techniques to help farmers." He also plans to look at the best way to use legumes and cereal crops to improve soil fertility.

He sees the One Planet Fellowship as "a program that helps you determine what you need and what to do," he says. He looks forward to networking with people from different countries and believes this will help in terms of career development.

As a recipient of the One Planet Fellowship, he hopes to influence his institution by stressing research-oriented toward production and environmental sustainability. "There is some interest in environmental issues, but very little. I hope to drive this interest."

He is also committed to helping farmers to see the influence of different production practices on the environment. "When we protect the environment, it's good for the farmers because it increases their productivity," he concludes.

Ikabongo's research focuses on measuring greenhouse gases (GHGs) from the soil to assess soil GHG mitigation options through sustainable management practices, especially from smallholder farmer fields.

Ikabongo Mukumbuta 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.