OnePlanet FELLOWSHIP

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

Candidate Profile

Mibei Elias Kibiwot

2020 One Planet Laureate Candidate

Position

Lecturer-Researcher

Institution

Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenya

Country

Kenya

Education

PhD, Food Science and Nutrition, Kenyatta University of Agriculture and Technology (JKUAT), Kenya

Mentor

Prof. George Ndiema Chemining'wa, Professor (University of Nairobi) and Ag. Principal, Turkana University College, Kenya

Area of research

Food science and nutrition security.

Mibei Elias Kibiwot is a trailblazer in his community and a celebrated son. He beat the odds in his academic performance to become the first person from his village high school to get into college. Growing up in a humble home in Makongi village in Uasin Gishu County, Kenya, Mibei was a timid but adventurous village boy. He was accustomed to working hard early in life because he had to help his parents farm and extended that commitment to school, recognizing that educational success was the gateway to a better future.

After excelling in primary school, Mibei expected to join the excellent government high school he had qualified for, but his parents could not afford the fees. He ended up in a local day school in his village.

This did not dampen Mibei's relentlessness in the pursuit of his dream, and four years later, he qualified to pursue biochemistry at the Jomo Kenyatta University of Agriculture and Technology (JKUAT), becoming his high school's first student to enter college. Many others have since joined universities, inspired by the example set by Kibiwot.

Mibei holds a Ph.D. in food science and nutrition from JKUAT, majoring in plant and nutritional biochemistry. He is also a lecturer and researcher in the Department of Biochemistry at the same university.

He is bothered by the neglect and underutilization of indigenous vegetables in favor of exotic varieties by his community. Unlike traditional vegetables, exotic ones require input investment, are prone to diseases and pests, and are not climate-resilient.

The traditional vegetables are more nutritious and are known to have medicinal properties. Mibei's research has taken up the role of fostering these vegetables in his community and the country.

His research drive originates from the need to help change his family and community's farming and food consumption patterns. The research seeks to understand the nutritional composition and adaptive mechanisms of traditional leafy vegetables. He processes them using various drying methods and analyzes their nutritional value to determine the best processing methods and the highest state of the nutrients.

The involvement of farmers in his work is exciting since he knows that his research will motivate them to adopt the traditional vegetables he promotes and use best practices to grow them in large quantities.

Part of Mibei's study is how plant biodiversity offers solutions for improving plant health and stress tolerance to mitigate climate change.

Mibei aspires to be an excellent food and climate change scientist. His research seeks to understand the nutritional composition and adaptive mechanisms of traditional leafy vegetables.

His research on heavy metal accumulation in vegetables grown along polluted rivers uses molecular techniques to determine how accumulation occurs, particularly in traditional vegetables' heavy metal transporters nature. Identifying the transporters will allow Mibei to make breeding recommendations that enhance or curtail heavy metal transportation. In this research, he uses metabolomics technology to compare his results with those generated in other high-quality research elsewhere.

Mibei aspires to be an excellent food and climate change, scientist. He aims to engage in collaborative initiatives with like-minded partners to develop solutions for smallholder farmers. He perceives the One Planet Fellowship as a platform that will contribute to his career goal by developing his research, networking, leadership, communication, and grant writing skills. It will also equip him to mentor other scientists and help them grow their careers.

The Fellowship benefits will also go to Mibei's institution through collaborative efforts with national, regional, and international partners. As a leader in his institution, he will bring in new knowledge and advanced science skills to help the institution develop interventions that address climate change locally.

Obtaining funding for research is a typical challenge for researchers, and Mibei is no exception. His innovative approaches to this include applying for fellowships and collaborating with other research scientists. The equipment also may fail, especially for analyzing metabolites. This has been a reason for Mibei's intensified zeal to create partnerships with others in genomics and metabolomics, particularly labs which can come in handy in such situations.

Mibei Elias Kibiwot 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.