OnePlanet FELLOWSHIP

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

Candidate Profile

Moussa Kante

2020 One Planet Laureate Candidate

Position

Researcher

Institution

University of Ségou

Country

Mali

Education

PhD, Population diversity of Xanthomonas phaseoli pv. manihotis in Mali and research on sustainable sources of resistance in cassava, GAIA Doctoral School in Montpellier, France and IPU (Ex-ISFRA & University of Ségou), Mali

Mentor

Dr. Karim Dagno, Plant Protection Specialist, Researcher, Institute of Rural Economy (IER)

Research Area

Agronomic research on phytosanitary issues, plant, environmental protection, and more specifically, on bacterial blight or bacterial vascular disease in cassava.

Moussa Kante is an Associate Professor at the University of Ségou in Mali. As a plant pathologist, Moussa specializes in agronomic research on protecting plants and the environment and specifically in bacterial vascular disease (Cassava Bacterial Blight or CBB) in cassava. Ultimately, his study aims to understand better the spread of this pathogen (known as Xpm, meaning Xanthomonas axonopodis pv manihotis) in cassava-producing areas so that breeders can select varieties with long-term resistance to CBB.

Born in Sougoula, Mali, in 1990, Moussa lived in different countries in the sub-region while growing up, according to where his father, an agricultural engineer, was assigned to work. The second of six siblings, Moussa has fond memories of growing up with his agronomist father, who worked for a farming company in Gagnoa in the west-central region of Côte d'Ivoire. The family returned to Mali when Moussa started secondary school, settling in a village near Ouélessebougou, continuing his studies.

He was awarded a scholarship for a university placing in Algeria and dreamt of becoming a doctor. When the time came to apply for medical studies, to his disappointment, he found out that the quota for scholarship students had already been reached. Only two options remained for Moussa: veterinary medicine or plant medicine. It was an easy decision to make as Moussa had developed a love for plants through his father's work and had even dreamt of developing medication to treat plants. Inspired by his father, he decided to enroll in an Agronomy program at the University of El Tarf in Eastern Algeria. Today, Moussa does not doubt that it was the right choice.

After completing the core curriculum, he specialized in plant protection at the University of Blida. In 2013, Moussa passed his engineering degree in agronomy, specializing in phytopathology. The young graduate then returned to the country after some advice from his father. He first embarked on a six-month advanced training course at the Regional Agricultural Research Centre/Institute of Rural Economy (CRRA/IER) in Sotuba, Bamako.

He was subsequently employed as a contract worker by an NGO, My Agro "Nga Sene" in Bamako, for an IER cotton project in Kadiolo, in the Sikasso region.

Since 2016, he has been researching the population diversity of Xanthomonas phaseoli pv. manihotis in Mali and identifying sustainable sources of resistance in cassava. One of the main reasons he chose to study plant protection was that his interest in plants grew as he watched his father graft fruit trees or vegetable plants in his garden. His neighbors and family would regularly ask for his father's advice about

crop production. Moussa was filled with admiration for his father because "he was providing a service for the community," he recalls with pride.

Moussa initially realized that he enjoyed natural science lessons and working with plants in particular. He prefers working in the field observing plants. He finds both of these aspects of research very appealing and incredibly motivating. On the one hand, he enjoys conducting experiments in the lab, which is nice and quiet. Additionally, the lack of experts in his field drives him to success.

Moussa is working on pest control with producer cooperatives in the cassava-producing area of the Ségou region. He works closely with the rural communities he meets during his field research, helping them with various issues, including contacting development stakeholders to support their businesses. By so doing, he hopes to be of service to the community, just like his father.

Before receiving a group email about the One Planet Fellowship call for application, Moussa was already familiar with AWARD, having once attended a joint working session. He believes the program will offer a framework to facilitate interaction and exchange through networking. "Being able to get help is very motivating," he says. He is counting on the leadership training to improve his self-confidence to engage the local stakeholder network. He also has clear expectations about certain subjects, including the need to improve his scientific writing skills. He aspires to improve his technical and scientific skills to further his professional development in his role as an associate professor.

According to Moussa, being mentored early in your career is an advantage. In his view, research values should be passed on to the younger generation early in their career. His plans include setting up an expert team to research neglected crops in Mali and the Sahel and developing a network of researchers working on cassava to help producers establish them as joint trade organizations.

Moussa is working on pest control with producer cooperatives in the cassava-producing area of the Ségou region in Mali including sensitization of farmers on pest control eand contacting development stakeholders to support the smallholder farmer businesses.

His selection for the One Planet Fellowship as staff from the University of Ségou proves the level of expertise within the University. It also demonstrates that the institution is successful at exporting skills.

According to Moussa, it is essential to keep persevering and surpass your expectations to obtain funding. Moussa highlights the increased security risk in Mali due to the current socio-political situation as a challenge to his research. Fortunately, the restrictions placed on working in the field can be partially compensated by various forms of technology, including smartphones.

The social aspect of research, which can be overlooked despite its importance, often significantly affects working practice. Rural communities are known for their conservatism. Consequently, farmers are initially reluctant to adopt new agricultural practices recommended by researchers. To overcome these barriers and develop a closer relationship with smallholders, Moussa offers an alternative approach using empirical and traditional knowledge.

Moussa Kante 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.