



Mphangera Kamanga  
**2015 AWARD Fellow**

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Position	Master’s Degree Student
Institution	University of Pretoria
Country	Malawi
BSc	General Agriculture, Bunda College of Agriculture (2013); Environmental and Geographic Sciences, University of Cape Town (2014).
Mentor	Ronnie Mvula, Lecturer, University of Malawi (Lilongwe University of Agriculture and Natural Resources)
Research Area	Use of crop and climate modeling applications and research in agronomy to facilitate scaling down of higher-level agricultural policy to women farmers to improve their livelihoods.

Mphangera Kamanga is the first of her family to attend university, and she is committed to setting a good example for her eight siblings, including her twin brother. She was drawn to agricultural research as a young girl, since her parents’ involvement in farming enabled her to see first-hand the positive impact agriculture has at the household level.

As a first year student, Kamanga won a scholarship at Bunda College of Agriculture, thanks to a grant from the Soko Fund, a Scottish educational charity supporting women and development in Malawi. And she has not stopped there, having won additional awards and scholarships throughout her undergraduate studies—and she’s well on her way to reaching her goal of being a positive role model.

Now a master’s student in agronomy at the University of Pretoria, Kamanga expects to graduate in 2016. The focus of her research is crop modeling, which involves simulating the behavior of future crop production systems based on current climate scenarios. “Crop modeling takes into account changes in climate, and changes in agronomic practices—such as the effect of fertilizer on soil changes and what will happen to the future yields of staple food crops, pulses or tubers with response to changes in climate,” she explains.

Her research focuses on how crop modeling can be applied to smallholder women farmers so that their farming systems can be improved. “No discussion about crop modeling is complete without mentioning smallholder farmers,” she states. “These are the people who have the farming experience, but they lack the capacity and the resources. I want to apply solutions on the ground.”

Crop modeling involves the use of software to model agricultural production systems under variable climatic conditions. “Our objective is to try to predict crop yields and assess existing gaps in order to reach the desired level of production,” Kamanga says. She works with farmers to gain information from planting through to harvesting, looking at

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**AWARD is a career-development program that equips top women agricultural scientists across sub-Saharan Africa to accelerate agricultural gains by strengthening their research and leadership skills through tailored fellowships. AWARD is a catalyst for innovations with high potential to contribute to the prosperity and well-being of African smallholder farmers, most of whom are women.**

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maize and beans, comparing which systems work better for a particular climate and environment. She then measures, analyzes, and records her findings—ensuring that any system farmers adopt is successful in maintaining their yields. “We look at the planting days and how they affect yields,” she continues. “The climate is changing, so we need to encourage farmers to adopt farming systems that will maintain and increase their yields. The big question is how sustainable the current cropping systems that smallholder farmers are adopting are especially in the context of a certain area’s climate.” Kamanga is devoted to this line of research. “There is not even one single crop modeler in my country,” she exclaims. “And I am committed to this work because agriculture is a sector that is continuously being influenced by the effects of climate change.” Kamanga intends to further her education so she can become an influential player in the field of agronomy in Malawi.

Once Kamanga has completed her master’s, she hopes to go back to work with one of the CGIAR centers to gain more experience before moving on to a PhD program. And she wants to impart the knowledge she gains at university to young people in her country. “I am committed to role modeling and mentoring young people,” she asserts. “After I complete my doctorate, I want to be involved in encouraging and imparting knowledge to small-scale women farmers and young people who want to go into agriculture, sharing my experiences and continuing to conduct research. Research findings through publications need to be practiced on the ground, not gathering dust on a shelf.”

This highly motivated young woman believes that AWARD will help to build her capacity and enable her to gain skills in leadership and research. She is determined to pass along whatever she gains to her institution. “I also want to build the capacity of small-scale women farmers, to see that they have a voice,” she says. “We shouldn’t leave everything to the scientists—these people have the experience and should be involved.”

While Kamanga appreciates the consistent guidance and input of her supervisors and mentors, she admits that she has dealt with being underestimated because she’s a young woman. However, she views this as an opportunity rather than a challenge. Indeed, she takes inspiration from the late Kenyan environmental and political activist Wangari Maathai. “If that woman managed to do so much, I am sure I can do likewise.”