AWARD
African Women in Agricultural Research and Development

Profile

Susan Njuguini Kabacia Mwai
2015 AWARD Fellow

Position	Research Assistant
Institution	National Museums of Kenya
Country	Kenya
BSc	Medical Microbiology, Jomo Kenyatta University of Agriculture and Technology, 2012
Mentor	Dr. Mary Nyawira, Senior Research Scientist and Mycologist, Pharmacology and Toxicology, National Museums of Kenya
Research Area	Cultivation and propagation of Arbuscular mycorrhiza fungi for use as a bio-fertilizer to remedy soils and improve crop production.

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Susan Njuguini Kabacia Mwai has been drawn to science since she was a little girl in primary school in Kenya's Rift Valley. "I loved science, especially biology, and I always performed well in the exams," she says. When time came to choose a course after secondary school, she naturally took up applied biology, earning a diploma at the Nairobi Technical Institute.

The firstborn of six children, Mwai initially had to forgo a university education, although she had made the grade, because her father could not afford the fees. "Although I didn't really enjoy the diploma program, I was determined to excel because I love education," she states. And determined she is! Not only did Mwai complete her diploma, but she went on to pursue a higher national diploma—also in Applied Biology—and then a BSc in Medical Microbiology. She paid for both of these qualifications out of her salary from a project she was working on at the National Museums of Kenya.

Mwai is currently pursuing a master's degree in Mycology at the University of Nairobi where she is conducting research on fungi. "I realized there are useful fungi growing in the natural ecosystem," she explains, adding that she is therefore focusing on using this resource to benefit smallholder farmers. She has been able to domesticate some wild edible mushrooms, especially oyster mushrooms. This work contributes to conserving natural germplasm, which helps to mitigate climate change.

Although Mwai's work is primarily focused in the lab rather than in the field, she is working directly with smallholder farmers as she produces

mushroom spawn (seed) as part of her duties at the National Museums. "I sell the seed directly to farmers, both men and women, and advise them on mushroom cultivation," she clarifies.

Mushroom cultivation requires little space and the crop is rich in protein, providing a less expensive and healthier alternative to red meat. Mushrooms also have many health benefits. "Research has shown that mushrooms improve the immune system, some species have anti-bacterial and anti-viral properties, and oyster mushrooms reduce the growth of tumors," Mwai says.

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Mwai hopes to create awareness among women about the importance of mushroom cultivation and production. "Women don't normally have a regular source of income," she notes. "Mushrooms are easy to grow and therefore provide an additional opportunity for people who are less well educated to earn a living." To encourage people to take up mushroom farming, she is part of a team that is developing a marketing model that works from the market backwards to show the benefits of growing mushrooms.

Still determined to excel in education, Mwai aims to attain a PhD and hopes to begin studying for the degree by 2017. She expects the AWARD Fellowship to improve her scientific skills and give her the opportunity to learn from experts through attachment with successful scientists who have done work similar to hers. The fellowship, coupled with a PhD, will help make her more effective in her research.

She is looking forward to using her newly acquired skills to mentor colleagues as she has been mentored. "I know the AWARD Fellowship will help me be more effective in research and delivery of services, and more focused in achieving my institutional and personal goals," she states. "I want the research I do to be impactful and meaningful, and most of all applicable to smallholder farmers."

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.

AWARD is generously supported by the Bill & Melinda Gates Foundation, the United States Agency for International Development and the Alliance for a Green Revolution in Africa. For more information, visit www.awardfellowships.org