



2013 AWARD Fellow
Victoria Bikogwa Bulegeya

Position	Research Officer
Institution	Agriculture Research Institute, Ilonga
Country	Tanzania
BSc	Environmental Science and Management Sokoine University of Agriculture, 2010
Mentor	Everina Paulo Lukonge, Plant Breeder Agricultural Research Institute, Ukiriguru

Research area: Agriculture research focusing on development of high-yield cotton varieties with the ability to tolerate climate variability and resist pest and disease attacks through the application of biotechnology techniques.

Victoria Bikogwa Bulegeya is from Kilosa district in eastern Tanzania, where her family cultivated rice, maize, and later sunflowers as the climate became drier. After finishing a BSc in Environmental Sciences at Sokoine University of Agriculture in Morogoro, she planned to work at the natural resource research, specializing in forestry and soil science in her institute. But because the section already employed four women and one man, her superiors assigned her to work in the traditionally male-dominated area of crop research, with a focus on cotton breeding.

Although she had taken a few courses in agriculture, she knew a little about breeding. "It is a difficult discipline," she says. "Many people try it and leave. Three others had trained there before me, and each one moved to a different job or discipline."

Unlike her predecessors, Bulegeya enjoys the challenges of breeding. "It is not only a science, there's an art to it," she says. "I like designing things, and with breeding there is room for experimentation and change. The results may be or may not be what you expect, but you get a chance to always learn something new. It's not the same procedure every time—there's room for variation, which makes it more interesting."

Cotton is an important industry in Tanzania, and is the second most exported crop after coffee. Yet farmers struggle with a limited number of poor-yielding varieties, particularly in eastern Tanzania, which has seen its proportion of cotton production shrink from five percent to only one percent of the country's total production. The few varieties available commercially have degraded over time, resulting in lower yields. Bulegeya's goal is to produce new heat- and drought-tolerant varieties that are better adapted to changing climate conditions and that will provide farmers with high, dependable yields.

However, the process of selection, development, evaluation, release, multiplication, and distribution of a new variety of cotton is long and arduous. It can take 10 years or more before a new variety makes it into circulation, and even then it may not be easily available for small-scale farmers. So, one of Bulegeya's projects is to purify the commercial variety of cotton currently grown in eastern Tanzania. Because the

variety has been in use for nearly 10 years, it has acquired impurities, reducing its yields and its quality. Bulegeya is crossing the commercial variety with its parent plant to restore its original, high-performing characteristics.

As part of her breeding research, Bulegeya works directly with farmers to discuss the problems they are encountering in cotton cultivation, and then she collects their ideas for strategies that could provide better solutions. "They ask questions, you give your explanation, and they give their version," she says. "We exchange information and gain additional knowledge from farmers that we researchers don't have."

This exposure is also giving Bulegeya a clearer understanding of cotton production in Tanzania, including the gender dynamics. "Men traditionally own the fields, but it's the women who do the labor," she says. "They cultivate and manage the fields, and do the difficult work, such as spraying pesticides and harvesting the cotton, but it is the men who sell it, and who obtain and control the proceeds. Women stand to benefit very much from better cotton varieties, since they are the main participants in its production."

There is a dearth of cotton breeders in Tanzania. Bulegeya is one of the few, which offers her both job opportunities and challenges. She is eager to develop her skills as a breeder, which she hopes to combine with her background in environmental science to better meet the needs of small-scale cotton farmers in the context of climate change.

The AWARD Fellowship is providing Bulegeya with the vital contacts and direction she needs to pursue her goal of obtaining a master's degree in cotton breeding and developing new varieties for Tanzanian farmers. It is helping to build her self-confidence and the scientific, writing, and interpersonal skills that she feels are essential for her advancement. "AWARD is offering me my first real exposure to the outside world," she says. "I am meeting so many people of different experiences and institutions. I am starting to be connected and more visible. You never know who may find me."

Bulegeya is one of a growing number of African women agricultural scientists who have won an AWARD Fellowship. 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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