AWARD
African Women in Agricultural Research and Development

Profile

Rashida Abdul-Ganiyu
2015 AWARD Fellow

Position	Research Technician
Institution	CSIR-Savanna Agricultural Research Institute (SARI), Nyankpala
Country	Ghana
MSc	Agricultural Biotechnology, Alexandria University, Egypt, 2013
Mentor	Dr. Antonia Tetteh, Lecturer, Department of Biochemistry and Biotechnology, Kwame Nkrumah University of Science and Technology
Research Area	Development of improved crop varieties for use by women farmers through screening for desirable traits using molecular biology techniques.

"Talking to rural women, you realize that if they had the same opportunities you had when they were young, they would be doing better"

Rashida Abdul-Ganiyu grew up in a large family of 13 children in northern Ghana. "My father was committed to education and would do anything to make sure you got through school," she says. Always a high achiever, she won the Presidential Award for the top two students in primary school—she was the top female student in the region, and this helped her win a scholarship to study general science at secondary school.

She passed with distinction and was awarded a scholarship from the Mubarak Initiative for Educating African Students in 2008 to study in Egypt, where she majored in genetics. She returned to Ghana and did her national service at CSIR, Nyankpala. Of the 32 interns at the institute, she was one of only two retained for employment.

Abdul-Ganiyu's choice of career was based on her love for nature and science, especially working in the laboratory. "I wanted to see how crops grow and how people can best be fed," she explains. She knew biotechnology would fulfill this goal: it was a solution to enhancing crop production, and would allow her to work in the laboratory. "People eat food that has been treated with pesticides, but they oppose the techniques used in biotechnology, which have no known side effects to human health," she states. "Biotechnology can help alleviate hunger, especially through enhanced crop production."

Abdul-Ganiyu's current research is on using molecular markers to identify certain cowpea genes for resistance to aphids and striga. "I screen the plant breeders' crop varieties for resistant traits to facilitate the breeding

process," she says. "It can take up to five years to come up with a variety, using conventional methods, but with molecular biology this can be reduced to two to three years."

The screening involves extracting DNA from plant samples and using a process called polymerase chain reaction that amplifies the gene of interest with the help of primers. Researchers can therefore easily identify varieties with resistant genes. With this process, breeders can tell directly from a two-week seedling whether a plant contains the required gene.

Abdul-Ganiyu wants to combine science and philanthropy so she can help people with the knowledge she has. This led her to set up Tab-bu Foundation, a charity organization in Northern Ghana that seeks to improve the livelihoods of underprivileged people in society especially rural women ."My interest in technology got me to learn biotechnology. I love to use technology to improve my work, and to improve productivity in crop production in Ghana through molecular biotechnology."

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To achieve her goals, Abdul-Ganiyu wants to obtain a PhD and has won a doctoral scholarship to study Molecular Cell and Developmental Biology with a focus on gene regulation and cell signaling at the University of Illinois at Chicago, beginning in August 2015. She believes the advanced degree will place her in a position to advise governments on implementing research findings. She argues that governments should ensure that investments in research to develop improved crop varieties should result in farmers using the technologies. "What use is it to come up with a variety that is very expensive and cannot be accessed by farmers?" she asks, emphasizing the need for governments to subsidize production for farmers.

Abdul-Ganiyu wants to undertake a project on empowering rural women in production and agro-processing of groundnuts, thus increasing their earnings. "Talking to rural women, you realize that if they had the same opportunities you had when they were young, they would be doing better," she says. "Some of the women would love to cultivate more than an acre, but because they lack the resources, they do less."

Abdul-Ganiyu is especially looking forward to the AWARD courses to equip her with the skills to publish her work in renowned journals. She also expects to improve her networks and visibility so she can meet with high-profile people as she seeks to pursue her career development goals. "Being an AWARD Fellow is prestigious and gives one more visibility than other fellowships," she says. She plans to share what she learns through AWARD with technicians at work by organizing a one-day workshop, and hopes the knowledge will trickle down to her colleagues.

Abdul-Ganiyu is happiest when she is able to come up with good results for plant breeders and is looking forward to doing more of this in the future.

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