



2014 AWARD Fellow

**N'sira Aurea Tatan Sylla**

Sylla's current research is focused on cotton, which is the main income earner for close to 300,000 rural households in northern Mozambique, generating some 20,000 jobs. The subsector generates nearly US\$40 million in agricultural exports per year.

Position	Researcher and Trainer
Institution	Institute of Agricultural Research of Mozambique (IIAM)
Country	Mozambique
BSc	Agriculture, Catholic University of Mozambique, 2008
Mentor	Dr. Anabela Matangue Zacarias da Silva, Technical Director, Agriculture and Natural Resources, IIAM
Research Area	Determination of optimal density of cotton plants for different soils to improve yields.

N'sira Aurea Tatan Sylla recalls being excited about math and chemistry in high school, but the common belief during that time in Mozambique was that science was for men, not women. "I said, but I'm good at it! I proved them wrong," she says with a smile. "I decided to study areas that people don't think women are suited for—I took it as a challenge."

Having completed a bachelor's degree in Agriculture, Sylla credits her mother as encouraging her to be an independent woman. "She fought to put all three of her children through school, and all have graduated from university," she says proudly.

Sylla's current research is focused on cotton, which is the main income earner for close to 300,000 rural households in northern Mozambique, generating some 20,000 jobs. The subsector generates nearly US\$40 million in agricultural exports per year.

"Although conditions for agriculture are good, yields remain low," Sylla says. "Soil becomes depleted, and farmers use the same land for the same crops every year, which is a problem." The low yield levels are also blamed on late sowing and insufficient protection against insects and weeds, coupled with the problem of small-sized fields. When compared with West African cotton-producing countries, yield rates of Mozambican cotton farmers are about 40 percent lower. The average yield in Mozambique is 500 kilograms per hectare of seed cotton, well below the average of about 1,100 kilograms per hectare produced in West Africa.

Sylla learned that farmers are not maximizing the use of available resources in the region, so as part of her research she designed plant-density trials to find other plant populations. "I tested the distance

“Cotton yields in this region have improved—from 800 kilograms to more than 1,200 kilograms per hectare.”



**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](http://www.awardfellowships.org)**

between lines and between plants in lines,” she explains. “They were using one meter between lines and 20 centimeters between plants in lines. I found the best combination was 80 centimeters between lines and 15 between plants.”

This testing took three years to complete, and all cotton sectors in the region have been gradually adopting this new population. “Yields have improved—from 800 kilograms to more than 1,200 kilograms per hectare,” reports Sylla. In addition, Sylla has trained extension staff and farmers in three districts on strip intercropping between cotton and food crops, as well as extension staff on biological control by using crops that attract natural enemies of pests. She has already developed a network with Brazilian scientists and with cotton researchers in Egypt for future collaboration.

“We have had some problems with the transfer of technology,” she admits. “We used to try to identify problems on our own without asking the producers, but farmers won’t accept solutions that don’t respond to their priorities. Now, we go to them first and involve them in the identification of problems in the field, trying to resolve what is really important to them.”

The next step in Sylla’s plant-population project is to test other spacing arrangements, such as double crop lines. “This project will take two years for the results, and after that I hope to join a team of social economic experts. We give farmers the technologies, but we need to learn more about how it affects their lives.”

Sylla plans to get a master’s degree, and then move on to a PhD. She would like to broaden her area of research. “I hope to work with fruit processors—this is very important because people grow fruit but don’t know how to process it for year-round use.”

She finds great satisfaction in being a “guide” to smallholder farmers. “It is very rewarding to see them upgrade their skills and production after giving them some direction or orientation,” she says. “Even something as simple as what time to plant is important. I explain that there are implications if you delay by even one week. It is exciting to see them develop from being small to medium-sized producers.”

Sylla is confident that her time as an AWARD Fellow will build her science skills so that she can continue to offer innovations to her country. “I know AWARD will help me to gain confidence and become more visible professionally, and I appreciate the chance to network with other women in Africa to share information.”